

ISLAMIC MEDICINE

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DEDICATION

This book is dedicated to the torchbearers of Islamic Medicine, the Muslim Physicians of the past, the present and the future.

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Introduction

It gives me great joy to present this book "Islamic Medicine" to the reader. This is a compilation of articles published in the Journal of Islamic Medical Association over the last several years on the art, science and history of Islamic Medicine, to which I have added a few articles of mine.

What prompted me to compile this book was a paragraph I read in the new book on History of Medicine (by Lyons and Pettrollis, published by Abrahams) which starts the chapter on Islamic Medicine as "Arabic Medicine." Many have characterized Muslim contributions as principally of preservation and compilation. As one historian commented, "Certainly they (Muslim Physicians) contributed no original novel ideas to develop Hippocratic thought; but in a period of unrest (the dark ages) they were preservers of knowledge."

While growing up as a young student of science, I was taught in high school to college, all the contributions of western scientists from Newton to Einstein but was never told about contributions of early Muslim scientists in the field of chemistry, astronomy, mathematics, and so on. Similarly in the five year curriculum of medicine that I underwent while studying medicine in a Muslim country, I never had even a single lecture about contributions of Muslims in the science of Medicine.

Thus I compiled these articles in the form of a book, so that it can be used by Muslims and Non-Muslims alike. The chronology of arrangements of these articles is my own as I thought the best. The book deals not only with history, but also with the art of Islamic Medicine. I have extended the book to include articles on how principles of Islam apply to the modern Science including Medical Ethics. I thank the authors and the publishers for making this successful. I am also grateful to Hakim Mohammed Said for his valuable advice and for writing the preface for this book.

PREFACE

Muslims raised the dignity of the medical profession from that of a menial calling to the rank of one of the learned professions. They were the first to introduce systematically in their medical writings small-pox and measles, the treatment of cerebral hemorrhage and apoplexy, allergy, tracheotomy, operation for cataract, paediatrics, anaesthesia and many other specialities on which thousands of books have been written. Islamic medicine has been nurtured by Muslims in the light of the Quranic edicts and Prophetic directions which led the scholars of mysticism and spiritualism to the determination between the Nature and the bodies and between the material and the spiritual worlds.

Among the articles of faith the highest degree of importance has been accorded to belief in Allah, after - life, and the Day of Judgement. These are at the very base of ethical conduct, maintenance of eminence in behaviour in worldly affairs, and civilized deportment. Faith exercises a very deep effect upon the spirit and the body of man. Materialistic attitudes have been dominant on man for centuries with such an intensity that the voice of those who have reached to the core of the matter has been subdued. Disease in fact is the result of the dissociation of the harmony between the body and the spirit, and Faith is the exactitude which is extremely effective in keeping this harmony intact through its belief in Tawhid and unity of thought. Natural healing thus comes through Faith and Tawhid is another distinctive aspect of Islamic medicine as mentioned in the Quran:

'O mankind! there hath come
To you a direction from your Lord
And a healing for the (disease)
In your hearts, - and for those
Who believe, a Guidance
And a Mercy" (X:57)

Say: "In the Bounty of Allah, And in His Mercy, - in that Let them rejoice": that is better Than the (wealth) they hoard (X:58)

Medicines are gifts from Nature. These were used by the Prophets themselves and they told others to use them. The Holy Prophet (many benedictions be ever upon him) has said:

“Allah has not created a disease whose cure He has not prescribed.”

The collection of essays by Dr. Shahid Athar on following pages comprises greater part of Islamic Medical Ethics whereas, it also deals with therapeutics, philosophy, spiritual healing and psychology, the articles being contributed by the scholars of international repute. The Muslim researchers and students who are the inhabitants of European and American countries and especially of medical universities and college are becoming more self-conscious about their Islamic perspective, this trend is likely to continue. And if it happens steadily, the works like "Islamic Medicine - collection of Essays" will help understand at large the Islamic medical psychology, the ethics, the concepts regarding sickness, suffering and destiny that exists in the Muslim mind and the world.

The Oath of a Muslim Physician

Praise be to Allah (God), the Teacher, the Unique, Majesty of the heavens, the Exalted, the Glorious, Glory be to Him, the Eternal Being Who created the Universe and all the creatures within, and the only Being Who contained the infinity and the eternity. We serve no other god besides Thee and regard idolatry as an abominable injustice.

Give us the strength to be truthful, honest, modest, merciful and objective. Give us the fortitude to admit our mistakes, to amend our ways and to forgive the wrongs of others.

Give us the wisdom to comfort and counsel all towards peace and harmony. Give us the understanding that ours is a profession sacred that deals with your most precious gifts of life and intellect.

Therefore, make us worthy of this favoured station with honor, dignity and piety so that we may devote our lives in serving mankind, poor or rich, literate or illiterate, Muslim or non-Muslim, black or white with patience and tolerance with virtue and reverence, with knowledge and vigilance, with Thy love in our hearts and compassion for Thy servants, Thy most precious creation.

Hereby we take this oath in Thy name, the Creator of all the Heavens and the earth and follow Thy counsel as Thou has revealed to Prophet Mohammad (pbuh). "Whoever killeth a human being, not in lieu of another human being nor because of mischief on earth, it is as if he hath killed all mankind. And if he saveth a human life, he hath saved the life of all mankind." (Qur'an V/35)

This medical oath which is a composite from the historical and contemporary writings of physicians of Islamic World, was officially adopted by I.M.A. in 1977.

CHARACTER OF THE PHYSICIAN

* The physician should be amongst those who believe in God, fulfill His rights, are aware of His greatness.

obedient to His orders, refraining from his prohibitions, and observing Him in secret and in public.

* The physician should be endowed with wisdom and graceful admonition. He should be, cheering not dispiriting, smiling and not frowning, loving and not hateful, tolerant and not edgy. He should never succumb to a grudge or fall short

of clemency. He should be an instrument of God's justice, forgiveness and not punishment, coverage and not exposure.

* He should be so tranquil as never to be rash even when he is right.. Chaste of words even when joking...

tame of voice and not noisy or loud, neat and trim and not shabby or unkempt.. conducive of trust and inspiring of respect.. well mannered in his dealings with the poor or rich, modest or great.. in perfect control of his composure.. and never compromising his dignity, however modest and forbearing.

* The physician should firmly know that 'life' is God's.. awarded only by Him.. and that 'Death' is the conclusion of one life and the beginning of another. Death is a solid truth... and it is the end of all but God. In his profession the physician is a solidier for "Life" only. defending and preserving it as best as it can be, to the best of his ability.

* The Physician should offer the good example by caring for his own health. It is not befitting for his that his "do's" and "don't's" are not observed primarily by himself He should not turn his back on the lessons of medical progress, because he will never convince his patients unless they see the evidence of his won conviction.. God addresses us in the "Quran" by saying, "and make not your own hands throw you into destruction". "The Prophet says" Your body has a right on you". and the known dictum is "no harm or harming in Islam".

* The Physician is truthful whenever he speaks, writes or gives testimony. He should be invincible to the dictates of creed, greed. friendship or authority pressurizing him to make a statement or testimony that he knows it false. Testimony is a grave responsibility in Islam.

The Prophet once asked his companions. "shall I tell you. about the gravest sins?" When they said yes, he said "claiming partners with God, being undutiful to one's parents.. "and, after a short pause he repeatedly said "and indeed the giving of false talk or false testimony."

* The Physician should be in possession of a threshold-knowledge of jurisprudence, worship and essentials of Fiqh enabling him to give counsel to patient seeking his guidance about health and bodily conditions with a bearing of the rites of worship. Men and women are subject to symptoms, ailments or biological situations like pregnancy and would wish to know the religious ruling pertaining to prayer, fasting, pilgrimage, family planning, etc.

* Although 'necessity overrides prohibition' the Muslim Physician-nevertheless-should spare no effort in avoiding the recourse to medicines or ways of therapy be they surgical, medical or behavioral that are prohibited by Islam.

* The role of Physician is that of a catalyst through whom God, the Creator, works to preserve life and health. He is merely an instrument of God in alleviating people's illness. For being so designated the physician should be grateful and forever seeking God's help. He should be modest, free from arrogance and pride and never fall into boasting or hint at self glorification through speech, writing or direct or subtle advertisement.

* The Physician should strive to keep abreast Scientific progress and innovation. His zeal or complacency and knowledge or ignorance, directly bear on the health and well- being of his patients. Responsibility for others should limit his freedom to expend his time. As the poor and needy have a recognized right in the money of the capable, so the patients own a share of the Doctor's time spent in study and in following the progress of medicine.

* The physician should also know that the pursuit of knowledge has a double indication in Islam. Apart from the applied therapeutic aspect, pursuit of knowledge is in itself worship, according to the Qoranic guidance, "And say .. My Lord .. advance me in knowledge" and "Among His worshippers.. the learned fear Him most".. and "God will raise up the ranks of those of you who believed and Thos who have been given knowledge."

Contributions Of Islam To Medicine

DEDICATION

This paper is dedicated to those who contributed to the well being of mankind and have done their best to make our journey on this planet more pleasant; to all of them, irrespective of their race, religion or country of origin.

Introduction

Medicine, as it stands today, did not develop overnight. It is the culmination of efforts of millions of people, some we know and others we do not. The flame of civilization, including medicine, started thousands of years ago. The flame has been handed over from one generation to another, and from one country to the other. Depending on who took the sacred responsibility of hosting it, sometimes it got brighter and sometimes it got dimmer. However, it never died away, because if it did, it would have been too hard to start all over again.

Between the ancient civilizations, namely the Egyptians, Greek, Roman, Persian, Indian, and Chinese, and the Renaissance era in Europe, there was a gap, commonly called "the dark ages", during which the flame was hosted, not by the West, but by another culture and people called the Arabs or the Moslems. The nomenclature, "the dark ages" reflects the civilization in Europe between the 7th and 13th centuries, but by no means it expresses the state of affairs in the Arab world or the Islamic Empire at that time when an and science were as bright as the midday sun. That era, unjustifiably, has been commonly neglected and overpassed, as if nothing happened. This paper is an effort to elude to the important events which took place and the significant physicians who lived during that period.

The Spread of Islam

In order to understand how medicine developed in the middle ages, we have to look back at the history and find out the important things that happened during the Seventh Century.

In 570 A.D., a man was born in a small city in the Arabian peninsula, called Mecca (Haykal 1976), his name was Mohammed. In 610 A.D. he declared a new religion, Islam. In 632 A.D., he died after uniting the Arab tribes who had been torn by revenge, rivalry, and internal fights.

Out of these mostly illiterate nomadic people, he produced a strong nation that encountered and conquered, simultaneously, the two known empires at that time, namely, the Persian and Byzantine Empires. In a man's life-time, the Islamic Empire extended from the Atlantic Ocean on the West, to the borders of China on the East. In 711 A.D., only 80 years after the death of their prophet, the Arabs crossed to Europe to rule Spain for more than 700 years. In 732 A.D., they threatened Paris and their thrust was stopped at Tours and Poiter (Eigeland 1976). In 831 A.D., the Moslems of North Africa invaded Sicily and ruled it for 200 years. By 846 A.D., they controlled the southern part of Italy and encountered Rome (Hitti 1977). The hold of the Moslems over Italy remained so firm that Pope John VIII (872-882 A.D.) deemed it prudent to pay tribute for two years (Hitti 1977) In 869 A.D., the Arabs captured Malta (Ibn-Khaldun). In the tenth century, from Italy and Spain, the Arabs extended their raids through the Alpine passages into mid-Europe. In the Alps, there are a number of castles and walls which tourists guides attribute to the invasion of the Moslems of Sicily. In the southern part of Italy and in Sicily, a great civilization was established and through which the torch of knowledge spread to Europe, mainly through the University of Salerno in the southern part of Italy (Hitti 1977, Parente 1967).

The expansion of the Moslems in Europe was not limited to those from North Africa and Spain. The Moslems, under the Ottoman Empire, invaded Europe from

the East. They occupied a good part of Middle Europe and besieged Vienna twice, once during the reign of Sulayman I (1520-1566 A.D.) and the other during the reign of Mohammed IV (1648-1687 A.D.) (Hitti 1977).

Islam and the Promotion of Culture and Science

As the Moslems challenged the civilized world at that time, they preserved the cultures of the conquered countries. On the other hand, when the Islamic Empire became weak, most of the Islamic contributions in art and science were destroyed. This was done by the Mongols who, out of barbarism, burnt Baghdad (1258 A.D.), and by the Spaniards, who out of hatred, demolished most of the Arabic heritage in Spain. The difference between the Arabs and these was the teachings of Islam which:

1. Stressed the importance and respect of learning. For example, the first word revealed to the Moslems' prophet Mohammed was "Read". In Mohammed's era, a captured enemy was freed if he paid a ransom or taught ten Moslems writing and reading. In their holy book, the Qur'an, the importance of knowledge has been repeatedly stressed as it says "Those who know and those who do not are not equal." The prophet Mohammed stressed learning by saying. "One hour of teaching is better than a night of praying." One of the early princes, Khalid fbn Yazid (end of the 7th century), gave up his treasure for the study of medicine and chemistry. He studied medicine under John the Grammarian of Alexandria, and chemistry under Merrinos the Greek (Haddad 1942). He also encouraged several Greek and Coptic medical books to be translated into Arabic.
2. Forbade destruction. On conquering Mecca, the prophet Mohammed strongly stated that no homes, animals, or trees should be destroyed. His followers abided with these principles when conquering other countries.
3. Encouraged cleanliness and personal hygiene. Islam instructed them to approach God in their prayers five times a day with bodies and clothes spotlessly clean.
4. Developed in them the respect of authority and discipline. For example, realizing the scourges and terror of plague, their prophet Mohammed (p.b.u.h.) decreed that "no man may enter or leave a town in which plague broke out." And to make this law all the more binding and effective, he promised the blessing of heaven to those who die of plague by stating that if a man died of plague he would be considered a martyr (Haddad 1942). Thus Mohammed (p.b.u.h.) laid for the Moslems the laws governing cordon and quarantine for the first time in history and made it work.

5. Tolerated other religions. The Islamic religion recognizes Christianity and Judaism and considers their followers to be people with holy books like Moslems. Moreover, they candidly treated the Jews at an era when the latter were persecuted in Europe. Dr. Jacob Minkin, a reputable Rabbi and scholar says "It was Mohammadan Spain, the only land of freedom the Jews knew in nearly a thousand years of their dispersion... While during the Crusades, the armored Knights of the Cross spread death and devastation in the Jewish communities of the countries through which they passed, Jews were safe under the sign of the Crescent. They were not only safe in life and possessions, but were given the opportunity to live their own lives and develop a culture so unique and striking that it went down in history as the 'Golden Ages'. The Moors, the Muslim conquerors of Spain in 711, were not religious fanatics. They were strong in their faith but generous with regard to the religious convictions of others.... "The Renaissance of Art in Italy, says George A. Dorsey, has blinded us to the Renaissance of Science in Spain, which fostered science, promoted culture, encouraged learning, and set a premium on intellectual pursuits, no matter whether the intellect was Moslem, Christian or Jew. Not since the days of Greece had the world known such thirst for knowledge, such passion for learning, such spirit shared by the prince and the courtien alike" (Minkin 1968).

The Arabs were assimilated by the vast new countries they reached. From this marriage of genuine characters and righteousness with the ancient and well established civilizations, a great new nation was born. It is difficult to identify this new breed as Arabs, because although the language was Arabic, all the scientists were not necessarily from the Arabian Peninsula. It is also equally difficult to describe it as Islamic, because although the majority of the scientists were Moslems, sponsored by Moslem rulers, and governed by the Islamic law, yet some scientists were Christians or Jews, especially at the early phase of the Islamic civilization: the translation period to Arabic, and the decline part: the translation period to Latin and Hebrew. Therefore, in this article, the adjectives Arabic or Islamic will be used as synonyms.

Medicine Before Islam

In order to comprehend the contributions of Arabs to medicine, we must have in our minds a picture of the condition of medicine before they arrived to the scene. Generally speaking, two elements are required for medical practice:

Manpower and hospitals

A. Manpower before Islam:

There were medical centers in different parts of the world which were later either under control of the Arabs or in touch with them. For example, in Syria, medicine was advanced and was greatly influenced by the Byzantine civilization which affected also the economic and administrative systems (Hammameh 1962). From the fifth century on, the Greek was the language of learning in Syria.

The knowledge of the Arabs of the Greek civilization was mainly through the Syrian scholars who translated it into Arabic. In Egypt, Alexandria was another center for culture. The Arabs got in touch with both the ancient Egyptian and Greek civilizations through the Egyptian scholars. In Persia, there was a medical school in a city called Jundi-Shapur in which medicine was highly developed. The Abbasi Caliphs during the 8th century encouraged the Persian physicians to translate into Arabic the medical knowledge therein, to build medical centers in Baghdad, the capital of their empire, and to run newly built hospitals. With further expansion east, the Arabs through contacts with India and China, brought ideas and methods, not only in medicine, but also in mathematics, chemistry, philosophy, etc.

B. Hospitals Before Islam:

Hospitals as we know them now probably were not present. True, there were places for the sick to stay, but these were mainly temples or annexes to temples that were run by priests. Gods were supposed to play a major role in the art of healing. For example, the Goddess Toueris was the Egyptian symbol of fecundity and protectress of the pregnant and parturient. She was shown as a standing pregnant hippopotamus carrying the hieroglyph meaning protection in one paw, and the sign of life in the other. Small figures of Toucris were popular as amulets (Speert 1973). In those days, sanctuary, prayers, inactation, and hypnosis were integral parts of the therapy.

Characteristic Features of Hospitals in the Islamic Civilization

During the Islamic civilization, hospitals had much developed and attained specific characteristics:

1. Secular: Hospitals served all peoples irrespective of color, religion, or background. They were run by the government rather than by the church, and their Directors were commonly physicians assisted by persons who had no religious

color. In hospitals, physicians of all faiths worked together with one aim in common: the well-being of patients.

2. Separate wards: Patients of different sexes occupied separate wards. Also different diseases especially infectious ones, were allocated different wards.

3. Separate nurses: Male nurses were to take care of male patients, and vice versa.

4. Baths and water supplies: Praying five times a day is an important pillar of Islam. Sick or healthy, it is an Islamic obligation; of course physical performance depends on one's health, even he can pray while laying in bed. Before praying, washing of face, head, hands, and feet must be done, if possible. For certain conditions, a bath is obligatory. Therefore, these hospitals had to provide the patients and employees with plentiful water supply and with bathing facilities.

5. Practicing physicians: Only qualified physicians were allowed by law to practice medicine. In 931 A.D., the Caliph Al-Mugtadir from the Abbasid dynasty, ordered the Chief Court-Physician Sinan Ibn-Thabit to screen the 860 physicians of Baghdad, and only those qualified were granted license to practice (Hamarneh 1962). The counterpart of Ibn- Thabit, Abu-Osman Sai'd Ibn-Yaqub was ordered to do the same in Damascus, Mecca, and Medina. The latter two cities were in need for such an act because of hundreds of thousands of pilgrims visiting them every year. This was to prevent taking advantage of these pilgrims and to curb the spread of diseases among them.

6. Rather medical schools: The hospital was not only a place for treating patients, but also for educating medical students, interchanging medical knowledge, and developing medicine as a whole. To the main hospitals, there were attached expensive libraries containing the most up-to-date books, auditoria for meetings and lectures, and housing for students and house-staff.

7. Proper records of patients: For the first time in history, these hospitals kept records of patients and their medical care.

8. Pharmacy: During the Islamic era, the science and the profession of pharmacy had developed to an outstanding degree. The Arabic materia medica became so rich and new drugs and compounds were introduced because the Muslims had contact with almost all the known world at that time, either through control or trade. Their ships sailed to China and the Philippines, and their convoys made trades with black Africa, Europe and Asia.

Chemistry became an advanced science, and there were means and need for a specialization called pharmacy.

Thus, the main Arabian hospitals were models for medieval hospitals built later in Europe. They were rather medical schools to which those seeking advanced medical knowledge, from the East or West, attended.

The Reasons for the High Standard of Islamic Hospitals

In the Islamic Empire, the hospitals attained a golden era unsurpassed in previous history. The reasons behind such a high standard include:

1. Being part of a civilization as a whole: The people were prosperous; thus, they were capable of taking care of their health and of seeking the best available treatment. Also, Islam stresses the necessity of seeking treatment of every disease; the Prophet says "For every disease, God created a cure." The required sciences for good medical care were at a high standard e.g. the Arabs were advanced in chemistry, mathematics, administration, pharmacy, medicine, etc. They gave the world the system of numbering which have replaced the cumbersome Roman numerals. The world owes to them the knowledge of the following chemical reactions, namely sublimation, precipitation, filtration, distillation, etc. The great Arab chemist Jabir Ibn- Hayan discovered sulphuric and nitric acids. According to Webster Dictionary, the words sugar, alcohol, alkali, syrup, coffee, cotton, all are Arabic words. Fielding H. Garrison, the author of the well-known work on the "History of Medicine" said:

"...The Saracens themselves were the originators not only of algebra, chemistry, and geology, but of many of the so-called improvements or refinements of civilization, such as street lamps, window-panes, firework, stringed instruments, cultivated fruits, perfumes, spices, etc..."

2. High prestige of physicians: The physicians in this era earned a high prestige. Although anyone, irrespective of his social status, can study medicine, yet the route was long and tedious. He had to finish Islamic studies, philosophy, astronomy, art, chemistry, etc. before being accepted as a medical student. Therefore, the physician was a cultured person who had wisdom and knowledge. In fact, the Arabic translation of a physician is "Hakim" which means sage. In the 9th and 10th century, the Court- Physician was in the protocol ahead of the Chief-Justice. Many eminent physicians, as we will discuss later, showed enough talent, social knowledge, political capabilities, and wisdom to be appointed by the Caliphs as prime ministers (Visiers). Owing to the high prestige and connections of physicians, generous funds for hospitals were easily obtained.

3. Rulers' involvement in public services: The Caliphs of the Islamic empire built magnificent hospitals for one or more of the following reasons:

a. Religion: Their religion stated that money spent on charity is a good investment for Judgment Day.

b. Eternity: The Pharaohs of Ancient Egypt sought eternity by building pyramids, the rulers of Islam sought the same thing by building mosques, hospitals, and schools carrying their names.

c. Politics: To show their people that they cared, and were interested in them, the rulers built hospitals.

Whatever the motive of the ruler, the population benefited and good hospitals were erected.

4. Adequate financing to run the hospitals: The rulers set aside generous funds to run these hospitals. Also the philanthropists gave generously, thus following their religious beliefs and imitating their rulers. In Islam, there is a special system called Al-Waqf. A person can donate part or all of this wealth to charity. The government takes care of such a donation, and its revenues help to maintain and build mosques, hospitals, and schools. Another source of funds and an important pillar of Islam is alms-giving (2 1/2% of property value). Collected alms goes to the state treasury which takes care of charitable organizations. Very few hospitals in the Islamic era were private. Thus, patients fees constituted an unimportant source of funding.

Specific Hospitals

The capital of the Islamic empire kept changing from one dynasty to the other. In each capital, an important medical center developed. Thus, by the end of the 13th century, there were many medical centers spread throughout the Arab world. Space does not allow the description of all the hospitals built throughout these centuries. We, therefore, chose some of the important ones which will be described according to the region where they were developed.

1. In El-Sham

El-Sham at that time included what is known now as Syria, Lebanon, Jordan, and Palestine, Damascus and Jerusalem were the important cities.

a. In Damascus: The first known hospital in Islam was built in Damascus in 706 A.D. by the Umayyad Caliph, Al-Walid (Hamarneh 1962). The most important hospital built in Damascus in the middle ages was named Al-Nuri Hospital, after King Nur Al-Din Zinki, in 1156. This hospital was built during the Crusade Wars to fulfill a need for a well-equipped and well-staffed hospital. It turned out to be

not only a first class hospital, but also a first class medical school. The king donated to the hospital a whole library rich in medical books. It is important to understand why books were expensive and limited in number in the middle ages. This was because they were hand-written as printing was not used until the middle of the fifteenth century. The hospital adopted medical records, probably the first first in history. From its medical school, many eminent physicians graduated, an example is Ibn Al-Nafis, the scholar who discovered the pulmonary circulation as will be discussed. The hospital served the people for seven centuries and parts of it still exist.

b. In Jerusalem: In 1055 A.D., the Crusaders built Saint John Hospital. By the end of the eleventh century, it grew to such an extent to include a hospital, a palace for knights, and a convent for the nursing sisters. The medical activities of the hospital were tremendous because of the large number of daily admissions of patients, pilgrims, and wounded soldiers. After the liberation of Jerusalem by Salah Al-Din in 1187 A.D., the hospital name was changed into Al-Salahani Hospital. He expanded the hospital which continued to serve the people until its destruction by an earthquake in 1458 A.D.

2. In Iraq and Persia: In 750 A.D., Baghdad was built to be the capital of the Abbasid dynasty by the Calip Abu-Gaifar Al- Mansur. In 766 A.D., he assigned the dean of the medical school of Jindi Shapur, Judis Ibn-Babtishu', to be the Court- Physician and to establish hospitals proportionate to the glory and prosperity of Baghdad.

When Harun Al-Rashid followed (786-809 A.D.), he ordered the grandson of Ibn-Bahtishu and his Court-Physician, Jibril, to build a special hospital named Baghdad Hospital. This hospital developed into an important medic center. One of its chiefs was Al-Razi, the eminent Internist.

In 918 A.D., the Caliph Al-Mugtadir built two hospitals in Baghdad. One was on the east side of the city which he named Al-Sayyidah Hospital, after his mother. The other was on the west side which he named, Al- Mugtadiri Hospital, after himself.

Another important hospital was named Al-Adudi Hospital. It was built in 981 A.D. after King Adud Al-Dawlah. It was the most magnificent hospital built in Baghdad before modern time. The Caliph wanted to outdo his predecessors. It was furnished with the best equipment and supplies known at the time. It had interns, residents, and 24 consultants attending its professional activities. Haly Abbas, who wrote the famous book "Liber Regius (Al-Malaki)", was one of the staff. It was destroyed in 1258 when the Mongols, led by Holagu the grandson of Ghingiz Khan, invaded Baghdad.

3. In Egypt:

In 872 A.D., Ahmed Ibn-Tulun built a hospital called Al-Fusta Hospital in the City Al-Fustat which is now in old Cairo. It served the growing Cairo population for six centuries. It was divided into separate wards. On admission, the patients were given special apparel while their clothes, money, and valuables were stored until the time of their discharge.

In 1284 A.D., King Al-Mansur Qalawun built an important hospital named Al-Mansuri Hospital. The story behind its construction is interesting. King Al-Mansur Qalawun was an officer in the Arabian army fighting the Crusaders. While in the Holy Land, he fell sick and was admitted to Al-Nuri Hospital. On recovery, he vowed that if he ever became the ruler of Egypt, he would build a great hospital in Cairo even more magnificent than Al-Nuri Hospital for, the sick, poor, and rich alike. At the dedication ceremony, he asked for a cup of wine from the pharmacy. After drinking it he declared that by taking that portion as a medication, he was signifying that the hospital was serving all people, from the king to the least of his subjects (Hamarneh 1962).

e. It was the best hospital built then as reported by the contemporary historians such as Ibn-Battuta and El-Kalkashandi. It had different sections for different diseases. Music therapy was used as a line of treatment for psychiatric patients. It served 4,000 patients daily. The patient's stay in the hospital was free moreover on his discharge, the patient was given food and money for compensation for being out of work during his hospital stay. Al-Mansuri Hospital has served Cairo for seven centuries since it has been built. It is now used for ophthalmology and called Mustashfa Qalawun. Its ancient door is preserved in the Islamic Museum of Cairo.

4. In North Africa (Al-Maghrib Al-Arabi):

a. Tunisia: In 830 A.D., Prince Ziyadat Allah I, built Al-Qayrawan Hospital in a district of the Qayrawan city called Al-Dimnah. Subsequently all hospitals in Tunisia were called Dimnah instead of Bimaristan as they were called in the East, which is a Persian word meaning a hospital. The Qayrawan Hospital was characterized by spacious separate wards waiting rooms for visitors and patients, and female nurses from Sudan, an event representing the first use of nursing in Arabic history. The hospital also included a chapel for prayers.

b. Morocco: In 1190 A.D., the king Al-Mansur Ya'qub Ibn-Yusuf, built a hospital in the capital city, Marakesh, named it the Marakesh Hospital. It was a huge hospital beautifully landscaped with fruit trees and flowers. Water was brought by aqueducts to all sections. Patients were provided with special apparel: one for winter and another for summer. The pharmacy was taken care of by specialists

called the Sayadlah. There was an expensive private section where a patient was charged what is equivalent to \$ 1501 day. One thousand years ago, this fee was quite expensive.

5. Al-Andalus (Spain):

In 1366 A.D., Prince Muhammed Ibn-Yusuf Ibn Nasr, built the Granada Hospital in the city of Granada which had expanded to half a million population. The hospital represented the beauty of the Arabic architecture in Spain and served the people until the fall of Granada in 1492 A.D.

Method of Therapy in Islamic Medicine

The patients were treated through a scheme starting with physiotherapy and diet; if this failed, drugs were used, and at last, surgery would be resorted to. The physiotherapy included exercises and water baths. The Arabs had an elaborate system of dieting and were aware of food deficiencies. Proper nutrition was an important item of treatment.

Drugs were divided into two groups: simple and compound drugs. They were aware of the interaction between drugs; thus, they used simple drugs first. If these failed, compound drugs were used which are made from two or more compounds. If these conservative measures failed, surgery was undertaken.

Medical Ethics in Islam

The medical profession was a well respected specialty and its leaders kept it this way by laying down proper ethics. Al-Tabari, the chief physician in 970 A.D., described the Islamic code of ethics as follows (Hamamch 1971, Levy 1967):

I. Personal characters of the physician:

The Physician ought to be modest, virtuous, merciful, and unaddicted to liquor. He should wear clean clothes, be dignified, and have well-groomed hair and beard. He should not join the ungodly and scuffers, nor sit at their table. He should select his company to be persons of good reputation. He should be careful of what he says and should not hesitate to ask forgiveness if he has made an error. He should be forgiving and never seek revenge. He should be friendly and peacemaker. He should not make jokes or laugh at the improper time or place.

II. His obligation towards patients:

He should avoid predicting whether a patient will live or die, only God (Allah) knows. He ought not lose his temper when his patient keeps asking questions, but

should answer gently and compassionately. He should treat alike the rich and the poor, the master and the servant, the powerful and the powerless, the elite and the illiterate. God will reward him if he helps the needy. The physician should not be late for his rounds or his house calls. He should be punctual and reliable. He should not wrangle about his fees. If the patient is very ill or in an emergency, he should be thankful, no matter how much he is paid. He should not give drugs to a pregnant woman for an abortion unless necessary for the mother's health. If the physician prescribes a drug orally, he should make sure that the patient understands the name correctly, in case he would ask for the wrong drug and get worse instead of better. He should be decent towards women and should not divulge the secrets of his patients.

III. His obligation towards the community:

The physician should speak no evil of reputable men of the community or be critical of any one's religious belief.

IV. His obligations towards his colleagues:

The physician should speak well of his acquaintances and colleagues. He should not honor himself by shaming others. If another physician has been called to treat his patient, the family doctor should not criticize his colleague even if the diagnosis and the recommendations of the latter differ from his own. However, he has the obligation to explain what each point of view may lead to since his duty is to counsel the patient as best as he can. He must warn him that combining different types of therapy may be dangerous because the actions of different drugs may be incompatible and injurious.

V. His obligations towards his assistants:

If his subordinate does wrong, the physician should not rebuke him in front of others, but privately and cordially.

ISLAMIC PHYSICIANS

Medicine in Islam passed through three stages:

I. The first stage is the stage of translation of foreign sources into Arabic. It extended mainly during the seventh and eighth centuries.

II. The second stage is the stage of excellence and genuine contribution in which the Islamic physicians were the leaders and the source of new chapters to medicine. This stage extended during the ninth through the thirteenth centuries.

III. The third stage is the stage of decline where medicine, as well as other branches of science, became stagnant and deteriorated. The stage started mainly after the thirteenth century.

During the first stage, Syrian and Persian scholars did a marvelous job by translating honestly the ancient literature from Greek and Syriac in Arabic. They translated different branches of science including philosophy astrology, and medicine. The works of Hippocrates (460-370 BC), Aristotle (384-322 BC), and Galen (131-210 A.D.) were among those translated. From Arabic, the classic Greek literature was translated into Latin, then into Greek because most of the original scripts were lost and the only source was the Arabic translation. If the Arabs did only one thing, namely, preserving the ancient literature and handing it honestly to Europe, that would have been a sufficient contribution in itself. The Moslem rulers encouraged translation, e.g. Khalif Al-Mamun Al-Abbasi paid the translator the weight of his translation in gold (Haddad 1942). Among the eminent physicians who took part in the first stage were Jurjis Ibn-Bakhtisliu, his grandson Jibril, Yuhanna Ibn-Masaway, and Hunain Ibn-Ishak; most of them were Christians, yet they were respected and well treated by the Moslem rulers.

It is said, rightly or wrongly, that the history of a nation is the sum total of the history of a few of its individuals. This is particularly true in the history of medicine during the Arab period. In every stage of its development we find men of outstanding repute, the sum total of whose efforts has constituted this magnificent chapter. It is impossible to give an account of all the important physicians of Islam. We thus are going to discuss some of those who were known to Medieval Europe and whose books affected its thinking and practice for centuries (Table 1), I chose an internist, Al-Razi (Razes); a surgeon, Al-Zahrawi (Abulcasis); the physician-philosopher of Islam, Ibn-Sina (Avicenna); the philosopher-physician of Islam, Ibn-Rushd (Averroes); a pioneer in physiology, Ibn-Al-Nafis; and a Jewish Arab, Ibn- Maimon (Maimonides).

AL-RAZI (RAZES) 841-926 A.D.

His full name is Abu-Bakr Mohammaed Ibn-Zakaria Al-Razi, known to the Western World as Razes. He was born in Ray, a suburb of Tehran, the capital of modern Persia (Profile of Iran 1977, Sarton 1950). He first studied music which was his main interest in his early life. He was a skillful player on the lute. He then studied philosophy, and later medicine. But he was a better physician than a philosopher ,

He first became the Court-Physician of Prince Abu Saleh Al-Mansur, the ruler of Khorosan. Then he moved to Baghdad where he became the Chief Physician of the Baghdad Hospital and the Court-Physician of the Caliph. He had a good basis of physics and chemistry as well as medicine.

He published several books which were translated into Latin, French, Italian, Hebrew, and Greek. One of his main books is "Al-Mansuri" (Liber Al-Mansofis) which he dedicated to his patron Prince Al-Mansur. It was composed of ten treatises and included all aspects of health and disease. He defined medicine as "the art concerned in preserving healthy bodies, in combating disease, and in restoring health to the sick." He thus showed the three aspects of medicine namely, public health, preventive medicine, and treatment of specific diseases. He listed seven principles for the preservation of health:

1. Moderation and balance in motion and rest.
2. Moderation in eating and drinking.
3. Elimination of superfluities.
4. Improvement and regulation of dwelling places.
5. Avoidance of excessive evil happenings before they become uncontrollable.
6. Maintenance of harmony in ambitions and resolutions.
7. Acquisition of reticence through possession of good habits including exercise.

He also published another book called "Al-Murshid". In it, he emphasized the important lines of therapy that we mentioned earlier. He described the different types of fever including continuous, relapsing, and hectic. He stated that fever can be a symptom of a disease or a disease in itself. He introduced mercury as a therapeutic drug for the first time in history, which was later adopted in Europe. He realized that a man normally does not want to get sick, and he wants to recover as soon as possible. However, if a patient does not have the will or the desire to get well, the physician's hands are tied and cannot help him. He stressed the continued medical education of the physician. He advised him to record his own observations. He encouraged him to meet with other physicians to discuss medical problems. He recommended that the physicians should try solving these problems rather than depending on others for finding solutions.

Another book written by Al-Razi was named "Al-Hawi", which means the complete text. It was composed of 22 volumes. It was one of the main text books in the medical school in Paris, especially its 9th volume on pharmacology.

He wrote a treatise on measles and smallpox called "de Peste or de Pestilentia" which was translated to Latin in 1565 A.D. It is a masterpiece in clinical medicine (Browne 1962). It describes the clinical difference between the two diseases so vividly that nothing since has been added (Keys 1971).

AL-ZAHRAWI (ABULCASIS, BUCASIS, ALZAHRAVIUS) 930-1013 A.D.

His full name is Abu-Al-Qasim Khalaf Ibn'Abbas Al-Zahrawi. He had been known in the Western World as Abulcasis, Bucasis or Alzahravius. He is the famous surgeon of the Arabs. In 930 A.D., he was born in Al-Zahra, a suburb of

Cordova. He attended the University of Cordova which had been established for one and a half centuries. At that time Cordova had a population of one million (Hitti 1977). It was the magnificent capital of Al- Andalus where culture and science were at their peak in Europe. In military power the Moslems also reached their zenith, not only in Spain but also throughout Europe after King Abdel-Rahman III defeated the Spanish kings of Navarre, Castile, and Leon at the north in 997 A.D.

Al-Zahrawi became an eminent surgeon. He was appointed as the Court-Physician of King Abdel-Rahman III. He spent a productive life in practicing medicine, especially in surgery and medical writings. He died at the age of 83.

He wrote mainly four books. One of them is "Al-Tasrif Liman Ajiz'an Al-Ta'lif" which is the best medieval surgical encyclopedia. It was used in Europe until the 17th century. He stressed the importance of basic sciences: "... Before practicing, one should be familiar with the science of anatomy and the functions of organs so that he will understand them, recognize their shape, understand their connections, and know their borders. Also he should know the bones, nerves, and muscles, their numbers, their origin and insertions, the arteries and the veins, their start and end. These anatomical and physiological bases are important, and as said by Hippocrates:

'These are many physicians by title and a few by practice.'... If one does not comprehend the anatomy and physiology, he may commit a mistake that can kill the patient. I have seen someone, who pretended to be a surgeon, incised an aneurysm in the neck of a woman, mistaking it for an abscess. The woman bled to death."

Heller stated that Al-Zahrawi described the ligation of arteries long before Ambrose Pare (Khairallah 1942). Al-Zahrawi also used cautery to control bleeding. He used wax and alcohol to stop bleeding from the skull during cranial surgery. Sprengel said that Al-Zahrawi was the first to teach the lithotomy position for vaginal operations (Khairallah 1942).

Al-Zahrawi also described the tracheotomy operation and performed it as an emergency on one of his servants. He was the first to write on orthodontia. He showed evidence of great experience from details of clinical picture and surgical procedures e.g. his description of varicose veins stripping, even after ten centuries, is almost like modern surgery (Al-Okbi 1971): "... Have the leg shaved if it is much hairy. The patient gets a bath and his leg is kept in hot water until it becomes red and the veins dilate; or he exercises vigorously. Incise the skin opposite the varicose vein longitudinally either at the ankle or at the knee. Keep the skin opened by hooks. Expose, dissect, and separate the vein. Introduce a spatula underneath it. When the vein is elevated above the skin level, hang it with a blunt rounded hook. Repeat the procedure about three fingers from the previous site and

hang the vein with another hook as previously done. Repeat the procedure at as many sites along the varicose vein as necessary. At the ankle, ligate and strip it by pulling it from the incision just above. When it reaches there, repeat at the higher incision until all of it is stripped. Ligate the vein and then excise it. If difficulty is encountered in pulling it, ligate its terminal part with a string and pass it under the spatula and dissect it further. Pull gently and avoid its tearing because if it does, it becomes difficult to strip all of it and can cause harm to the patient. When you have stripped it all, put alcohol sponges at the sites of the skin incisions and take care of the incisions until they heal. If the varicose vein is tortuous, you have to incise the skin more frequently, at each change of direction. Dissect it and hang it with the hooks and strip it as previously described. Do not tear the vein or injure it. If this happens, it becomes difficult to strip it. The hooks used should be blunt, eyeless, and rounded, otherwise it can injure the vein".

He also wrote about fracture of the skull (Al-Okbi 197 1): "... The types of skull fractures are numerous, their shapes are different, and their causes are many. For example, some skull fractures are due to a blow by a sword that splits the whole skull and reaches the dura, the same as the ax does to the wood, therefore it is called axial fracture. Sometimes the sword does not split the skull completely, it is thus called incomplete axial fracture. Such a fracture can be small or big. Another type is comminuted fracture Which can be due to a hit by a stone or a fall on a stone; and this fracture can reach the dura or only be limited to the outer part of the bone. This fracture can also be small or big. A third type is the hairy type of skull fracture which is so tiny and linear like a hair. A fourth type is the depressed fracture which occurs due to a fall or a blow so the bone is depressed like a brass jar when hit by a blunt instrument. This usually happens when the bone is soft as children.

The types of these fractures are diagnosed by examining the wound, removing the debris and contused part of the scalp, exposing the skull, and feeling it by the spatulas.

The hairy fracture is difficult to discover and can be diagnosed by exposing the skull, and smearing it with ink; the linear fracture thus appears stained." In the treatment of fractures of the skull, Al- Zahrawi wrote: "... If the patient shows serious signs such as high fever, repeated vomiting, exophthalmos, convulsions, and coma, do not touch him because he is probably going to die. Otherwise, treat him as follows: first shave the patient's head. In comminuted depressed fractures, these pieces of bone should be removed as will be explained. If in the process of the patient's examination or during surgery bleeding occurs, it can be controlled by pressure using towels soaked in alcohol and by wax. Then after control of the bleeding, the small pieces of bone are removed using special forceps.

To remove the depressed fracture, first, make trephines in the healthy bone around it.

These trephine instruments should not penetrate beyond the skull into the soft tissues underneath, thus they are called non penetrating trephines. They have a rounded ring in their proximal end to prevent them from penetrating beyond certain depths. You should have a number of these trephines that can stop at different depths depending on the thickness of the skull. Connect the holes in the skull using special saws. First, use a fine small saw, then larger ones. These should be sharp and made of steel. Avoid cutting the dura by the trephine or saw. Once the depressed bone is freed, remove it gently, then smoothen the edges of the skull by special instruments. Wash with alcohol and treat the wound with packs soaked with ointment."

Al-Zahrawi described many dental operations such as dental extractions, fixation, re implantation, and artificial teeth. He described referred tooth pain and cautioned the physician against removal of the healthy tooth to which pain is referred. He used gold threads to fix teeth because other metals would tarnish and cause a reaction. Chapter 6 of his book was all devoted to foreign bodies of the ear and their treatment.

He also devoted one whole chapter to mid wifery, giving tips to midwives, and describing the problems of difficult labor and obstetrical manoeuvre.

He recommended decompression of the fetal head for obstructed labor and described the instruments used. He described the management of liver abscess by treating it into two stages (Khairallah 1942). The first stage was to allow adhesions around it and to close it from the peritoneal cavity. The second stage was to incise it. ..."If the procedure is done in one stage, the pus may spread to the whole abdomen and the patient may die." He described a total of 200 surgical and dental instruments most of them were original (Fig. 3). He said "... Choose your instruments carefully beforehand according to the operation. However, you should design other devices if needed." Thus he encouraged the physician to be innovative.

During the time of Al-Zahrawi, surgery in the Islamic world became a respected specialty practiced by reputable physicians. On the contrary in Europe, surgery was belittled and practiced by barbers and butchers. In 1163 A.D., the Council of Tours declared the following resolution "Surgery is to be abandoned by the schools of medicine and by all decent physicians."

IBN-SINA (AVICENNA) 980-1037 A.D.

Ibn-Sina's full name is Abu-Ali Husayn Ibn-Abdullah Ibn-Sina, and his titles were Al-Shaykh Al-Rais (The chief Master) or Al-Muallim Al-Thani (The Second Teacher), second to Aristotle (Browne 1962). He is known in the Western World as Avicenna.

In 980 A.D. Avicenna was born in Bukhara which is now part of Russia and known as Uzbek. By the age of 10, he was already proficient in the Qur'an and Arabic classics. By the age of 16, he finished Islamic law studies, geometry, anatomy, logic and philosophy. His metaphysics were influenced by an earlier philosopher in Islam, Al-Farabi. By the age of 18, he completed the study of medicine. Soon after, he became the Prime Minister (the Visier) and Court-Physician of Prince Nuli-Ibn-Mansur, the Samanid Ruler of Bukhara. The prince was impressed by the intelligence and endurance of his Visier and opened for him the royal library which was unique in its literary richness. Ibn-Sina wrote his first book at the age of 21. Then he became Visier of Ali ibn Maimun, the ruler of Khawarazm or Khiva. But he ultimately fled to avoid being kidnapped by the Sultan Mohammed El-Ghazin. Ironically, fate played an important role in the life of Avicenna who was a master in planning. The ruler of Hainadan, the southern part of Persia, who was called Amir Shwnsu'd-Dawla, had renal colic. Ibn-Sina treated the Amir's colic. The latter was very pleased and appointed Ibn-Sina, not only his Court-Physician but also his Visier. Avicenna was a proud and arrogant man. This created enemies leading to a mutiny of the military leaders against him resulting in his dismissal and imprisonment. Fortunately, the Amir got renal colic once more and no one could relieve his pain. He thus summoned back Avicenna who cured him. The Amir apologized to Avicenna and reinstated him.

Avicenna's life during this time was extraordinarily strenuous. All the day he was busy with the Amir's services. The great part of the night was passed in lecturing and writing his books, with intervals of wine-drinking, music, and minstrelsy. After many vicissitudes, worn out by hard work and hard living, Avicenna died and was buried in Hamadan, Persia, in 1037 A.D. at a comparatively early age of 57. In his last illness, he treated himself unsuccessfully, so that it was said by his detractors that neither could his physics save his body nor his metaphysics save his soul (Browne 1962).

Avicenna wrote 100 treatises, 21 of them were major of which 16 were in medicine. He wrote in philosophy, medicine, named *Al-Qanon fi Al- Tibb* (Canon of Medicine). It was an encyclopedia containing more than one million words. It was composed of 5 volumes:

Volume I- described the principles and theories of medicine.

Volume II- contained the simple drugs arranged alphabetically.

Volume III- described localized diseases of the body from the head to the toes.

Volume IV- was addressed to generalized diseases of the body e.g. fevers.

Volume V- explained compound drugs.

The Canon contained all medical knowledge up to the 10th century.

It was translated to many languages and was the reference for medical schools in Europe up to the 17th century. Although the Canon was a great book, it overshadowed the important works prior to it by Al-Razi and Al-Zahrawi, and subsequent to it by Ibn-Al-Nafis and Ali Ibn-Abbas, Halle Abbas, (Haddad 1942).

Avicenna wrote Arabic and Persian poems. The last of his Arabic poem, which is considered a classical beauty, describes the descent of the Soul into the Body from the Higher Sphere which is its home (Browne 1962).

Avicenna is considered a great philosopher, and his writings affected the thinkers and influenced many of those who appeared after him. He was a unique phenomenon, not only because of his encyclopedic accomplishments in medicine, but also because of the versatility of his genius. He has been compared in this respect with Aristotle, Leonardo da Vinci, and Goethe. (Keys 1971).

IBN-RUSHD (AVERROES) 1126-1198 A.D.

Ibn-Rashid, or Averroes as known in Europe, was born in Granada in 1126 A.D. He studied philosophy, medicine and law. He was appointed as a judge in Seville in 1169 A.D. where he stayed in office for a quarter of a century. He was affected by Aristotle on whom he wrote important commentaries (Black 1970, Al-A'sar 1972). In these interpretations he asserted that the human soul is not independent, but shares a universal mind.

This belief caused a great controversy and was later declared heretical by both the Moslems and Christians alike because it contradicted the doctrine of personal immortality.

He was admired by the Jews of Spain who spread his philosophy into Europe especially into Italy and France after they were forced out of Spain. His followers interpreted some of his writings to mean that there are two kinds of truth, a philosophical and a religious truth. This implied a separation of reason and faith and influenced philosophical and theological speculation for many centuries. Because of his bold ideas, he was dismissed from his work and sent to Morocco where he was kept in prison till he died on December 12, 1198. His important contribution to medicine was "Al- Kulliyat fi Al-Tibb" (Colliyet). It was a summary of the medical science at that time and composed of seven parts. He wrote another book, "Al-Taisir" on practical medicine. It consisted of useful excerpts and a clinical description of diseases including serous pericarditis and mediastinal abscesses. He personally suffered from the latter disease and left very careful records of his own symptoms. The book is not known in Arabic, but there are several Latin editions (Haddad 1942). Ibn-Rushd was another example of the cultured Arabic physician.

IBN-MAIMON (MAIMONEDES) 1135-1204 A.D.

In 1135, Musa Ibn-Maimon (Moses Maimonides) was born in Cordova, Spain (Minkin 1968). His father was a Rabbi and had a great influence of Moses in his interests and future achievements. During that period, the Jews had a golden era in Spain. Minkin (1968), a renowned scholar and an eminent Rabbi wrote "It was Mohammedan Spain, the only land the Jews knew in nearly a thousand years of their dispersion, which made the genius of Moses Maimonides possible."

In 1160 A.D., Moscs emigrated to North Africa to the city of Fas where be studied medicine. In 1165 A.D., he left to Palestine. However, he was dissatisfied with the cultural atmosphere. Therefore, he went to Egypt where he stayed until he died in 1204 A.D. He was buried in Teberias, Palestine.

Maimonides first started his career as the Rabbi of the jewish Comniunity of El-Fostat city, the capital of Egypt at that time and part of old Cairo now. Later on in life, he practiced medicine. He became an eminent and respected physician. He served both Kings Salah-El-Din (Saladin) and his elder son Sultan Al-Malik Al-Afdel during his short reign (1198-1200 A.D.). He had the confidence of both. During Salali-El-Din war with King Richard, the Lion-Hearted, the latter fell sick. Although those two kings were at war, they had respect and admiration of each other. Saladin sent Ibn- Maimon to Richard to treat him. After being, cured. Rictiard asked Ibn- Maimon to join his court. But the latter politely declined and preferred to stay with Saladin (Minkin 1968).

Ibn-Maimon's impact on the Jewish religion is very important. He wrote classical work in the Jewish religion including codification of the Jewish laws (Black and Roth 1970). He also wrote in philosophy. His book, "Dalalat Al-Hai'ran" (The Guide of the Perplexed) is an important achievement which was welcomed not only by those of the Jewish faith but also by Moslems and Christians alike. He was affected by his contemporary Ibn- Rushd, and by Aristotl'e, but he tried to unite logic and faith.

He wrote his book in Arabic. He did not live long enough to see the Hebrew translation of his book which would have given him a great satisfaction.

In medicine Ibn-Maimon did two important things: First, be translated many Arabic books into Hebrew which were than translated into Latin and other European languages. An example of these books is the Canon of Avicenna.

Second, be wrote a few books of his own. One of them is "Magala fl Tadbir Al-Sihha" (Regimen Sanitatis) which stressed proper diet, personal hygiene, and moderation in the pleasures of life. It was in the form of letters to the Sultan Al-Afdel. The other was "Kitab" Al-Fusal fi Al-Tibb" (Fisul Musa). This was a

collection of 1,500 aphorisms extracted from Galen writings together with forty-two critical remarks. Moses also wrote a book on poisons and their antidotes (Al-A'sar 1971).

When he died, the Jewish Community in Egypt built a synagogue named after him. Some Jews, up-till-now, stay overnight in this synagogue in hope of receiving healing through the spirit of this great physician (Minkin 1968).

IBN-EL-NAFIS 1208 - 1288 A.D.

In 1208 A.D., Ala'El-Deen Ibn-El-Nafis was born in a small town near Damascus called Kersh (Fig. 7) (Ibrahim 1971). He learned medicine and philosophy in Damascus and spent most of his life in Cairo. He was a physician, a linguist, a philosopher, and a historian. He was the first chief of Al-Mansuri Hospital in Cairo and the dean of the School of Medicine in 1284 A.D.

During this era, the medical profession together with other branches of science were passing a crisis. The Mongol Tartar invasion and destruction of Baghdad in 1258 A.D.

caused an injury to the Islamic civilization from which it never recovered. It destroyed forever the Caliphate, symbolic unity of the Arabian Empire, and the preeminence of Baghdad as a center for learning. Also during that period Islamic culture was declining in Spain. It was then Cairo and Damascus the centers for education and medical prestige. There, the medical profession was characterized by the freedom of discussion and expression of opinion, something that was very new in medicine and not known to Europe until the 17th century when introduced to England by Sedenbam (Ibrahim 1971).

Ibn-El-Nafis was a dedicated person. He used to start his day after dawn prayers by making rounds at the hospital, followed by case discussions with students and colleagues, then hospital administration. His evenings were spent reading, writing and discussing medicine and philosophy with frequent scholar guests at his home in El-Hussein District in Old Cairo. His house was an example of beautiful Arabic architecture, made of marble with a fountain in the central hall.

In the history of mankind, there are persons whose importance is revealed with the flight of time and their truth glows with the passage of centuries; Ibn-El-Nafis is one of those. He wrote many books, ten of them in medicine and a special one in philosophy. In the latter book "Fadel Ibn- Natik", he tried to present the counter point of the philosophical view of Avicenna expressed in his book "Hai Ibn-Yakzan". He was an authority in theology on which he wrote several books, e.g. "The complete Message of the Prophet" and "Al-Ragol Al-Kamel" (The Perfect Man) supporting unitarianism. Ibn-El-Nafis had an important character, not being

a follower but a scholar. This was evident in his writings whether in philosophy or medicine.

In medicine he wrote many books, two of them are "Mujaz Al-Qanun" which means the "Summary of the Canon". In these two books which were based on Avicenna's writings, he criticized the shortcomings of Avicenna's book and of Galen's views and added to them. That is why he was named by some as Avicenna the Second. For example he wrote "... We have relied chiefly on his (Galen) teachings, except in a few details which we think are wrong and were not given after a thorough investigation. In describing the function of the organs, we have depended on careful investigation, observation, and honest study, regardless of whether or not these fit with the teachings and theories of those who have preceded us."

Ibn-El-Nafis added lights to the physiology of the circulation. In the ancient history, Erasistratus of the Alexandria School (310 B.C. - 250 B.C.) believed that blood was contained only in the right side of the circulation, namely the veins and the right side of the heart. The left side of the circulation, namely the left side of the heart and the arteries were supposed to contain air because arteries were found empty when an animal was sacrificed, hence the name "arteria".

When Galen came (131 - 210 A.D.), he described blood to pass from the right side of the heart to the left side through minute openings in the septum of the heart, then it mixed with air from the lungs, and subsequently distributed to the whole body. For centuries this was the prevalent belief and no one, including the Arab physicians and their eminent writer Avicenna, could dare to challenge this sacred view. Ibn-El-Nafis did. Five times he stated in unmistakable terms that "... the blood from the right chamber of the heart must arrive at the left chamber, but there is no direct pathway between them. The thick septum of the heart is not perforated and does not have visible pores as some people thought or invisible pores as Galen thought. The blood from the right chamber must flow through the vena arteriosa (pulmonary artery) to the lungs, spread through its substance, he mingled with air, pass through the arteria venosa (Pulmonary vein) to reach the left chamber of the heart... " (Salem 1968). In describing the anatomy of the lung Ibn-El-Nafis stated: "The lung is composed of. first, the bronchi: second, the branches of the arteria venosa; and third, the branches of the vena arteriosa; all of these are connected by loose porous flesh ... The need of the lung for the vena arteriosa is to transport to it the blood that has been thinned and warmed in the heart, so that what seeps through the pores of the branches of this vessel into the alveoli of the lung may mix with what is of air therein and combine with it ... and the mixture is carried to the left cavity of the heart by the arteria venosa" (Haddad 1936).

Ibn-El-Nafis also made other contributions in the circulation. Avicenna, following Galen's description of the anatomy, stated that the human heart has three ventricles. Ibn-El-Nafis rejected that as he said "...And his statement ((Avicenna's) that the heart has three ventricles is not correct, as the heart has only two ventricles..." He was also the first to describe the coronary circulation as he wrote "...Again, his statement (Avicenna's) that the blood in the right side is to nourish the heart is not true at all, for the nourishment of the heart is from the blood that goes through the vessels that permeate the body of the heart... "

Three centuries after the discovery of the pulmonary circulation by Ibn- El-Nafis, others, such as Michael Servetus, Realdo Columbus, Carlo Ruini, Andrea Cesalpino, and Francois Rabelais, claimed the same thing (Mayerhof 1935). There is a strong suspicion that these authors obtained their knowledge from the Arabic literature which was available at that time to the European investigators without giving credit to Ibn-El-Nafis (Keys 1971, Haddad 1942). It is considered to be more than a coincidence that Servetus would discover the pulmonary circulation, and also to write a book, similar to that of Ibn-El-Nafis, on Unitarianism. Servetus was burnt with his book, "Restitutio Christianismi" in Geneva in October 1553 at the order of Calvin because he was considered heretic.

THE ARABS AND OPHTHALMOLOGY

The Arabs were much interested in ophthalmology. In the ninth century, Hunayn Ibn-Ishak (Joannitius) translated to Arabic the Greek literature on the eye. As mentioned before, Al-Razi described the changes in the caliber of the eye produced by relaxation and contraction of the iris. He also described the cataract operation.

In 1050 A.D. at Baghdad, Ali Ibn-Isa (Jesu Haly) wrote the classic book on ophthalmology, Tathkirat Al-Kahhalin (A Note for the Oculists). As stated by Cunistan (1921), it is the oldest book in its original language on diseases of the eye. In a clear and logical style, the author described trachoma, conjunctivitis, and cataract, and prescribed treatment (Keys 1971).

Avicenna described the six extrinsic muscles of the eyeball.

In the thirteenth century, Ibn Abu-Al-Kawafer wrote a book on therapeutic ophthalmology entitled "Natigat-El-Fikr fi Ilag Amrad El-Bassar" (Conclusions from Experience on Treatment of Diseases of the Eye). According to Kahil (1929) is one of several textbooks of ophthalmology considered to be superior to any written in Europe up to the eighteenth century.

ARABS AND ANESTHESIA

Being an obstetric anesthesiologist, I feel obligated to write a little more on the contributions of the Arabs to both anesthesia and obstetrics.

First, in anesthesia, the Arabs described in detail the pharmacology of important narcotics such as opium and other central nervous system depressants such as hyoscyamus and hashish (Khairallal 1942). Burton (1886 A.D.) stated that "anesthetics have been used in surgery throughout the East for centuries before ether and chloroform became the fashion in the civilized West. In a Treatise on the Canon of Medicine by Gruner it is stated by Avicenna under the article 814 ANESTHETICS: "If it is desirable to get a person unconscious quickly, without him being harmed, add sweet smelling moss to the wine, or lignum aloes. If it is desirable to procure a deeply unconscious state, so as to able the pain to be borne which is involved in painful applications to a member. place darnel-water into the wine, or administer fumitory, opium, hyoscyamus (half dram doses of each); nutmeg, crude aloes-wood (4 grains of each). Add this to the wine, and take as much as is necessary for the purpose. Or. boil black hyoscyamus in water, with mandragore bark, until it becomes red. Add this to the wine."

The Arabs also introduced "the Soporific Sponge" which was commonly used for anesthesia in the middle ages.

The sponge was soaked with aromatics and narcotics to be sucked and then held under the nostril to provide anesthesia prior to surgery (Keys 1971).

Avicenna wrote more than 1,000 years ago about the effect of pain on ventilation: "Pain dissipates the bodily strength and interferes with the normal functions of the organs. The respiratory organs are inhibited from drawing in air, and consequently the act of breathing is interfered with, and the respiration becomes intermittent, rapid, or altogether unnatural in rhythm" (Gruner 1930).

ARABS AND OBSTETRICS

Hunayn Ibn-Ishak (Joannitius, 809-873 A.D.) translated the work of the Greek pioneer in obstetrics, Paul of Aegina, into Arabic. Hunayn also translated to the Arabic world most of the work of Hippocrates, Galen, and Ptolemy. Moreover, he was a gifted physician and philosopher. Ali Ibn-Al- Abas Al-Majusi (Halle Abbas) who died in 994 A.D. was the first to describe in his book "Al-Kitab Al-Malaki" (The Royal Book) that the uterine contractions are the cause of delivery of the fetus (Keys 1971). Before him, it was thought that the uterine contractions were only as indication of the onset of labor; subsequently the fetus would swim its way out of the womb and birth canal.

Most of the deliveries were performed by midwives at home.

For complicated obstetrics Al-Zahrawi offered advice to midwives as mentioned before, used fetal craniotomy for delivery of obstructed labor, and introduced the required instruments.

The operation of cesarean section was described in 1010 in the Book of Kings by Abul Kasim Al-Firdaws (Speert 1973). It described cesarean section practiced on R'uda'ba, the mother of King Rustam at his birth. Another reference for cesarean section is written by Al-Biruni in his book, Al-Athar Al-Baliyyah dated 1307 A.D. (Hitti 1977) as shown in figure 9 which is preserved in the library of the University of Edingurgh (Hitti 1977).

Ibn-Al-Quff (1233-1305) is another physician who contributed to perinatology. He was born in Jordan (Hamameh 1971). In his book "Al-Jami", he presented original observations on embryology. He spoke of "... the formation of a foam stage in the first 6 to 7 days, which in 13 to 16 days, is gradually transformed into a clot and in 28 to 30 days into a small chunk of meat. In 38 to 40 days, the head appears separate from the shoulders and limbs. The brain and heart followed by the liver are formed before other organs. The fetus takes its food from the mother in order to grow and to replenish what it discards or loses ... There are three membranes covering and protecting the fetus, of which the first connects arteries and veins with those in the mothers womb through the umbilical cord. The veins pass food for the nourishment of the fetus, while the arteries transmit air. By the end of seven months, all organs are complete ... After delivery, the baby's umbilical cord is cut at a distance of four fingers breadth from the body, and is tied with fine, soft woolen twine. The area of the cut is covered with a filament moistened in olive oil over which a styptic to prevent bleeding is sprinkled ... After delivery, the baby is nursed by his mother whose milk is the best. Then the midwife puts the baby to sleep in a darkened quiet room... Nursing the baby is performed two to three times daily. Before nursing, the mother's breast should be squeezed out two or three times to get rid of the milk near the nipple". These findings of Ibn-Al-Quff, appear basic and fundamental, but seven hundred years ago, they were new and different.

CONCLUSION

One cannot help but look with admiration upon the way the Muslims handled their responsibility towards mankind. They not only preserved, but also added to earlier achievements in medicine. They have fostered the flame of civilization, made it brighter, and handed it over to Europe in the best possible condition. Europe, in turn, passed it to the United States of America, and the cycle continues.

TABLE 1. THE MAIN ISLAMIC PHYSICIANS

Name - Arabic: Jurjis ibn Bakhtishu Jibril Yuhanna ibn Masawayh

Name - latin:

Span of Life (A.D.): 700 - 800

Speciality and Contribution: Translation from Greek and Syriac into Arabic

Special Books: Translation of works of Hippocrates, Galen and Aristotle

City - Country: Baghdad

Name - Arabic: Hunain Ibn Ishak

Name - latin:

Span of Life (A.D.): 826 - 882

Speciality and Contribution:

Special Books:

City - Country:

Name - Arabic: Al-Razi

Name - latin: Razes

Span of Life (A.D.): 841 - 926 (Ray-Tehran)

Speciality and Contribution: Internal Medicine, Epidemiology, Ophthalmology, Chemistry, Physics, Philosophy

Special Books: Kitab Al-Mansuri (The Liber Al-Mansuris), Al-Murshid, Al-Hawi (Continents), Al-Gudari wa, Al-Gudari (de Peste or de Pestilentia)

City - Country: Kharasan, Baghdad

Name - Arabic: Al-Zahrawi

Name - latin: Abulcasis (Bucasis Alzahravius)

Span of Life (A.D.): 930 -1013 (al-Zahra-Cordova)

Speciality and Contribution: Surgery

Special Books: al-Tasrif Liman Ajiz 'an al' Ta'lif

City - Country: Al-Andalus (Cordova)

Name - Arabic: Ibn-Sina

Name - latin: Avicenna

Span of Life (A.D.): 980 - 1037 (Bukhara)

Speciality and Contribution: Medical Encyclopedia, Philosophy, Astronomy, Poetry

Special Books: 100 books Al-Qanun (over million words)

City - Country: Hamazan, Jurjan

Name - Arabic: Ibn-Rushd

Name - latin: Averroes

Span of Life (A.D.): 1126 - 1198

Speciality and Contribution: Philosophy, Medicine, Law

Special Books: Kitab Al-Kulliat

City - Country: Al-Andalus, Granada

Name - Arabic: Ibn-Maimon

Name - latin: Maimonides

Span of Life (A.D.): 1135 - 1208 (Granada)

Speciality and Contribution: Philosophy, Translations- Hebrew, Latin, Poisons, Hygiene and Public Health

Special Books: Al-Tadbir El-Sihhi, Moushid El-Hairan

City - Country: Cairo (Saladdin's physician)

Name - Arabic: Ibn-Al-Nafis

Name - latin:

Span of Life (A.D.): 1208 - 1288 (Damascus)

Speciality and Contribution: Pulmonary circ., Blood supply to the heart

Special Books: Sharah Tashrih al Qanun, Al-Mujaz

City - Country: Damascus, Cairo

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Islamic Medicine: 1000 years ahead of its times

Ibrahim B. Syed

SUMMARY

Within a century after the death of Prophet Muhammad (peace be upon him) the Muslims not only conquered new lands, but also became scientific innovators with originality and productivity. They hit the source ball of knowledge over the fence to Europe. By the ninth century, Islamic medical practice had advanced from talisman and theology to hospitals with wards, doctors who had to pass tests, and the use of technical terminology.

The then Baghdad General Hospital incorporated innovations which sound amazingly modern. The fountains cooled the air near the wards of those afflicted with fever; the insane were treated with gentleness; and at night the pain of the restless was soothed by soft music and storytelling. The prince and pauper received identical attention; the destitute upon discharge received five gold pieces to sustain them during convalescence. While Paris and London were places of mud streets and hovels, Baghdad, Cairo and Cardboard had hospitals open to both

male and female patients; staffed by attendants of both sexes. These medical centers contained libraries pharmacies, the system of interns, externs, and nurses. There were mobile clinics to reach the totally disabled, the disadvantaged and those in remote areas. There were regulations to maintain quality control on drugs. Pharmacists became licensed professionals and were pledged to follow the physician's prescriptions. Legal measures were taken to prevent doctors from owning or holding stock in a pharmacy. The extent to which Islamic medicine advanced in the fields of medical education, hospitals, bacteriology, medicine, anesthesia, surgery, pharmacy, ophthalmology, psychotherapy and psychosomatic diseases are presented briefly.

INTRODUCTION

Prophet Muhammad (peace be upon him) who is ranked number one by Michael Hart', a Jewish scholar, in his book *The 100*:

The Most Influential Persons in History, was able to unite the Arab tribes who had been torn by revenge, rivalry, and internal fights, and produced a strong nation acquired and ruled simultaneously, the two known empires at that time, namely the Persian and Byzantine Empires. The Islamic Empire extended from the Atlantic Ocean on the West to the borders of China on the East. Only 80 years after the death of their Prophet, the Muslims crossed to Europe to rule Spain for more than 700 years. The Muslims preserved the cultures of the conquered lands. However when the Islamic Empire became weak, most of the Islamic contributions in art and science were destroyed. The Mongols burnt Baghdad (1258 A.D.) out of barbarism, and the Spaniards demolished most of the Islamic heritage in Spain out of hatred.

The Islamic Empire for more than 1000 years remained the most advanced and civilized nation in the world. This is because Islam stressed the importance and respect of learning, forbade destruction, developed in Muslims the respect for authority and discipline, and tolerance for other religions. The Muslims recognized excellence and hungered intellectually, were avid for the wisdom of the world of Galen, Hippocrates, Rufus of Ephesus, Oribasius, Dioscorides and Paul of Aegina. By the tenth century their zeal and enthusiasm for learning resulted in all essential Greek medical writings being translated into Arabic in Damascus, Cairo, and Baghdad. Arabic became the International Language of learning and diplomacy. The center of scientific knowledge and activity shifted eastward, and Baghdad emerged as the capital of the scientific world. The Muslims became scientific innovators with originality and productivity. Islamic medicine is one of the most famous and best known facets of Islamic civilization, and in which the Muslims most excelled. The Muslims were the great torchbearers of international scientific research. They hit the source ball of knowledge over the fence to Europe. In the

words of Campbell' "The European medical system is Arabian not only in origin but also in its structure. The Arabs are the intellectual forebears of the Europeans."

The aim of this paper is to prove that the Islamic Medicine was 1000 years ahead of its times. The paper covers areas such as medical education, hospitals, bacteriology, medicine, anesthesia, surgery, ophthalmology, pharmacy, and psychotherapy.

MEDICAL EDUCATION

In 636 A.D., the Persian City of Jundi-Shapur, which originally meant beautiful garden, was conquered by the Muslims with its great university and hospital intact. Later the Islamic medical schools developed on the Jundi-Shapur pattern. Medical education was serious and systematic. Lectures and clinical sessions included in teaching were based on the apprentice system. The advice given by Ali ibnul-Abbas (Haly Abbas: -994 -A.D.) to medical students is as timely today as it was then'. "And of those things which were incumbent on the student of this art (medicine) are that he should constantly attend the hospitals and sick houses; pay unremitting attention to the conditions and circumstances of their intimates, in company with the most astute professors of medicine, and inquire frequently as to the state of the patients and symptoms apparent in them, bearing in mind what he has read about these variations, and what they indicate of good or evil."

Razi (Rhazes: 841-926 A.D.) advised the medical students while they were seeing a patient to bear in mind the classic symptoms of a disease as given in text books and compare them with what they found (6).

The ablest physicians such as Razi (Al-Rhazes), Ibn-Sina (Avicenna: 980-1037 A.D.) and Ibn Zuhr (Avenzoar: 116 A.D.) performed the duties of both hospital directors and deans of medical schools at the same time. They studied patients and prepared them for student presentation. Clinical reports of cases were written and preserved for teaching'. Registers were maintained.

Training in Basic Sciences

Only Jundi-Shapur or Baghdad had separate schools for studying basic sciences. Candidates for medical study received basic preparation from private tutors through private lectures and self study. In Baghdad anatomy was taught by dissecting the apes, skeletal studies, and didactics. Other medical schools taught anatomy through lectures and illustrations. Alchemy was once of the prerequisites for admission to medical school. The study of medicinal herbs and pharmacognosy rounded out the basic training. A number of hospitals maintained barbel gardens as a source of drugs for the patients and a means of instruction for the students.

Once the basic training was completed the candidate was admitted as an apprentice to a hospital where, at the beginning, he was assigned in a large group to a young physician for indoctrination, preliminary lectures, and familiarization with library procedures and uses. During this preclinical period, most of the lectures were on pharmacology and toxicology and the use of antidotes.

Clinical training:

The next step was to give the student full clinical training. During this period students were assigned in small groups to famous physicians and experienced instructors, for ward rounds, discussions, lectures, and reviews.

Early in this period therapeutics and pathology were taught. There was a strong emphasis on clinical instruction and some Muslim physicians contributed brilliant observations that have stood the test of time. As the students progressed in their studies they were exposed more and more to the subjects of diagnosis and judgment. Clinical observation and physical examination were stressed. Students (clinical clerks) were asked to examine a patient and make a diagnosis of the ailment. Only after an had failed would the professor make the diagnosis himself. While performing physical examination, the students were asked to examine and report six major factors: the patients' actions, excreta, the nature and location of pain, and swelling and effuvia of the body. Also noted was color and feel of the skin- whether hot, cool, moist, dry, flabby. Yellowness in the whites of the eye (jaundice) and whether or not the patient could bend his back (lung disease) was also considered important (8).

After a period of ward instructions, students, were assigned to outpatient areas. After examining the patients they reported their findings to the instructors. After discussion, treatment was decided on and prescribed. Patients who were too ill were admitted as inpatients. The keeping of records for every patient was the responsibility of the students.

Curriculum

There was a difference in the clinical curriculum of different medical schools in their courses; however the mainstay was usually internal medicine. Emphasis was placed on clarity and brevity in describing a disease and the separation of each entity. Until the time of Ibn Sina the description of meningitis was confused with acute infection accompanied by delirium. Ibn Sina described the symptoms of meningitis with such clarity and brevity that there is very little that can be added after 1000 years⁶. Surgery was also included in the curriculum. After completing courses, some students specialized under famous specialists. Some others specialized while in clinical training. According to Elgood⁹ many surgical

procedures such as amputation, excision of varicose veins and hemorrhoids were required knowledge. Orthopedics was widely taught, and the use of plaster of Paris for casts after reduction of fractures was routinely shown to students. This method of treating fractures was rediscovered in the West in 1852. Although ophthalmology was practiced widely, it was not taught regularly in medical schools. Apprenticeship to an eye doctor was the preferred way of specializing in ophthalmology. Surgical treatment of cataract was very common. Obstetrics was left to midwives. Medical practitioners consulted among themselves and with specialists. Ibn Sina and Hazi both widely practiced and taught psychotherapy. After completing the training, the medical graduate was not ready to enter practice, until he passed the licensure examination. It is important to note that there existed a Scientific Association which had been formed in the hospital of Mayyafariqin to discuss the conditions and diseases of the patients.

Licensing of Physicians

In Baghdad in 931 A.D. Caliph Al-Muqtadir learned that a patient had died as the result of a physician's error. There upon he ordered his chief physician, Sinan-ibn Thabit bin Qurrah to examine all those who practiced the art of healing. In the first year of the decree more than 860 were examined in Baghdad alone. From that time on, licensing examinations were required and administered in various places. Licensing Boards were set up under a government official called Muhtasib or inspector general . The Muhtasib also inspected weights and measures of traders and pharmacists. Pharmacists were employed as inspectors to inspect drugs and maintain quality control of drugs sold in a pharmacy or apothecary. What the present Food and Drug Administration (FDA) is doing in America today was done in Islamic medicine 1000 years ago.

The chief physician gave oral and practical examinations, and if the young physician was successful, the Muhtasib administered the Hippocratic oath and issued a license. After 1000 years licensing of physicians has been implemented in the West, particularly in America by the State Licensing Board in Medicine. For specialists we have American Board of Medical Specialities such as in Medicine, Surgery, Radiology, etc. European medical schools followed the pattern set by the Islamic medical schools and even in the early nineteenth century, students at the Sorbonne could not graduate without reading Ibn Sina's Qanun (Cannon). According to Razi a physician had to satisfy two condition for selection: firstly, he was to be fully conversant with the new and the old medical literature and secondly, he must have worked in a hospital as house physician.

HOSPITALS

The development of efficient hospitals was an outstanding contribution of Islamic medicine (7). The hospitals served all citizens free without any regard to their color, religion, sex, age or social status. The hospitals were run by government and the directors of hospitals were physicians.

Hospitals and separate wards for male patients and female patients. Each ward was furnished with a nursing staff and porters of the sex of the patients to be treated therein. Different diseases such as fever, wounds, infections, mania, eye conditions, cold diseases, diarrhea, and female disorders were allocated different wards. Convalescents had separate sections within them. Hospitals provided patients with unlimited water supply and with bathing facilities. Only qualified and licensed physicians were allowed by law to practice medicine. The hospitals were teaching hospitals educating medical students. They had housing for students and house-staff. They contained pharmacies dispensing free drugs to patients. Hospitals had their own conference room and expensive libraries containing the most up-to-date books. According to Haddad, the library of the Tulum Hospital which was founded in Cairo in 872 A.D. (100 years ago) had 100,000 books. Universities, cities and hospitals acquired large libraries (Mustansiriyya University in Baghdad contained 80,000 volumes; the library of Cordova 600,000 volumes; that of Cairo 2,000,000 and that of Tripoli 3,000,000 books), physicians had their own extensive personal book collections, at a time when printing was unknown and book editing was done by skilled and specialized scribes putting in long hours of manual labour.

For the first time in history, these hospitals kept records of patients and their medical care.

From the point of view of treatment the hospital was divided into an out-patient department and an inpatient department. The system of the in-patient department differed only slightly from that of today. At the Tulun hospital, on admission the patients were given special apparel while their clothes, money, and valuables were stored until the time of their discharge. On discharge, each patient - received five gold pieces to support himself until he could return to work.

The hospital and medical school at Damascus had elegant rooms and an extensive library. Healthy people are said to have feigned illness in order to enjoy its cuisine. There was a separate hospital in Damascus for lepers, while, in Europe, even six centuries later, condemned lepers were burned to death by royal decree.

The Qayrawan Hospital (built in 830 A.D. in Tunisia) was characterized by spacious separate wards, waiting rooms for visitors and patients, and female

nurses from Sudan, an event representing the first use of nursing in Arabic history. The hospital also provided facilities for performing prayers.

The Al-Adudi hospital (built in 981 A.D. in Baghdad) was furnished with the best equipment and supplies known at the time. It had interns, residents, and 24 consultants attending its professional activities. An Abbasid minister, Ali ibn Isa, requested the court physician, Sinan ibn Thabit, to organize regular visiting of prisons by medical officers (14). At a time when Paris and London were places of mud streets and hovels, Baghdad, Cairo, and Cordova had hospitals which incorporated innovations which sound amazingly modern. It was chiefly in the humaneness of patient care, however, that the hospitals of Islam excelled. Near the wards of those afflicted with fever, fountains cooled the air; the insane were treated with gentleness; and at night music and storytelling soothed the patients.

The Bimaristans (hospitals) were of two types - the fixed and the mobile.

The mobile hospitals were transported upon beasts of burden and were erected from time to time as required.

The physicians in the mobile clinics were of the same standing as those who served the fixed hospitals. Similar moving hospitals accompanied the armies in the field. The field hospitals were well equipped with medicaments, instruments, tents and a staff of doctors, nurses, and orderlies.

The traveling clinics served the totally disabled, the disadvantaged and those in remote areas.

These hospitals were also used by prisoners, and by the general public, particularly in times of epidemics.

BACTERIOLOGY

Al-Razi was asked to choose a site for a new hospital when he came to Baghdad. First he deduced which was the most hygienic area by observing where the fresh pieces of meat he had hung in various parts of the city decomposed least quickly.

Ibn Sina stated explicitly that the bodily secretion is contaminated by foul foreign earthly body before getting the infection. Ibn Khatima stated that man is surrounded by minute bodies which enter the human system and cause disease.

In the middle of the fourteenth century "black death" was ravaging Europe and before which Christians stood helpless, considering it an act of God.

At that time Ibn al Khatib of Granada composed a treatise in the defense of the theory of infection in the following way:

To those who say, "How can we admit the possibility of infection while the religious law denies it?" We reply that the existence of contagion is established by experience, investigation, the evidence of the senses and trustworthy reports. These facts constitute a sound argument. The fact of infection becomes clear to the investigator who notices how he who establishes contact with the afflicted gets the disease, whereas he who is not in contact remains safe, and how transmission is effected through garments, vessels and earrings.

Al-Razi wrote the first medical description of smallpox and measles - two important infectious diseases. He described the clinical difference between the two diseases so vividly that nothing since has been added. Ibn Sina suggested the communicable nature of tuberculosis. He is said to have been the first to describe the preparation and properties of sulphuric acid and alcohol. His recommendation of wine as the best dressing for wounds was very popular in medieval practice. However Razi was the first to use silk sutures and alcohol for hemostasis. He was the first to use alcohol as an antiseptic.

ANESTHESIA

Ibn Sina originated the idea of the use of oral anesthetics. He recognized opium as the most powerful mukhadir (an intoxicant or drug). Less powerful anesthetics known were mandragora, poppy, hemlock, hyoscyamus, deadly nightshade (belladonna), lettuce seed, and snow or ice cold water. The Arabs invented the soporific sponge which was the precursor of modern anesthesia. It was a sponge soaked with aromatics and narcotics and held to the patient's nostrils.

The use of anesthesia was one of the reasons for the rise of surgery in the Islamic world to the level of an honourable speciality, while in Europe, surgery was belittled and practiced by barbers and quacks. The Council of Tours in 1163 A.D. declared Surgery is to be abandoned by the schools of medicine and by all decent physicians." Burton stated that "anesthetics have been used in surgery throughout the East for centuries before ether and chloroform became the fashion in civilized West."

SURGERY

Al-Razi is attributed to be the first to use the seton in surgery and animal gut for sutures.

Abu al-Qasim Khalaf Ibn Abbas Al-Zahrawi (930-1013 A.D.) known to the West as Abulcasis, Bucasis or Alzahrawius is considered to be the most famous surgeon

in Islamic medicine. In his book Al-Tasrif, he described hemophilia for the first time in medical history. The book contains the description and illustration of about 200 surgical instruments many of which were devised by Zahrawi himself. In it Zahrawi stresses the importance of the study of Anatomy as a fundamental prerequisite to surgery. He advocates the re implantation of a fallen tooth and the use of dental prosthesis carved from cow's bone, an improvement over the wooden dentures worn by the first President of America George Washington seven centuries later. Zahrawi appears to be the first surgeon in history to use cotton (Arabic word) in surgical dressings in the control of hemorrhage, as padding in the splinting of fractures, as a vaginal padding in fractures of the pubis and in dentistry. He introduced the method for the removal of kidney stones by cutting into the urinary bladder. He was the first to teach the lithotomy position for vaginal operations.

He described tracheotomy, distinguished between goiter and cancer of the thyroid, and explained his invention of a cauterizing iron which he also used to control bleeding. His description of varicose veins stripping, even after ten centuries, is almost like modern surgery. In orthopedic surgery he introduced what is called today Kocher's method of reduction of shoulder dislocation and pateleectomy, 1,000 years before Brooke reintroduced it in 1937.

Ibn Sina's description of the surgical treatment of cancer holds true even today after 1,000 years. He says the excision must be wide and bold; all veins running to the tumor must be included in the amputation. Even if this is not sufficient, then the area affected should be cauterized.

The surgeons of Islam practiced three types of surgery: vascular, general, and orthopedic, Ophthalmic surgery was a speciality which was quite distinct both from medicine and surgery. They freely opened the abdomen and drained the peritoneal cavity in the approved modern style.

To an unnamed surgeon of Shiraz is attributed the first colostomy operation. Liver abscesses were treated by puncture and exploration.

Surgeons all over the world practice today unknowingly several surgical procedures that Zahrawi introduced 1,000 years ago .

MEDICINE

The most brilliant contribution was made by Al-Razi who differentiated between smallpox and measles, two diseases that were hitherto thought to be one single disease. He is credited with many contributions, which include being the first to describe true distillation, glass retorts and luting, corrosive sublimate, arsenic, copper sulfate, iron sulphate, saltpeter, and borax in the treatment of disease . He

introduced mercury compounds as purgatives (after testing them on monkeys); mercurial ointments and lead ointment." His interest in urology focused on problems involving urination, venereal disease, renal abscess, and renal and vesical calculi. He described hay-fever or allergic rhinitis.

Some of the Arab contributions include the discovery of itch mite of scabies (Ibn Zuhr), anthrax, ankylostoma and the guinea worm by Ibn Sina and sleeping sickness by Qalqashandy. They described abscess of the mediastinum. They understood tuberculosis and pericarditis.

Al Ash'ath demonstrated gastric physiology by pouring water into the mouth of an anesthetized lion and showed the distensibility and movements of the stomach, preceding Beaumont by about 1,000 years" Abu Shal al- Masihi explained that the absorption of food takes place more through the intestines than the stomach. Ibn Zuhr introduced artificial feeding either by gastric tube or by nutrient enema.

Using the stomach tube the Arab physicians performed gastric lavage in case of poisoning. Ibn Al-Nafis was the first to discover pulmonary circulation.

Ibn Sina in his masterpiece Al-Quanun (Canon), containing over a million words, described complete studies of physiology, pathology and hygiene. He specifically discoursed upon breast cancer, poisons, diseases of the skin, rabies, insomnia, childbirth and the use of obstetrical forceps, meningitis, amnesia, stomach ulcers, tuberculosis as a contagious disease, facial tics, phlebotomy, tumors, kidney diseases and geriatric care. He defined love as a mental disease.

OPHTHALMOLOGY

The doctors of Islam exhibited a high degree of proficiency and certainly were foremost in the treatment of eye diseases. Words such as retina and cataract are of Arabic origin.

In ophthalmology and optics Ibn al Haytham (965-1039 A.D.) known to the West as Alhazen wrote the Optical Thesaurus from which such worthies as Roger Bacon, Leonardo da Vinci and Johannes Kepler drew theories for their own writings. In his Thesaurus he showed that light falls on the retina in the same manner as it falls on a surface in a darkened room through a small aperture, thus conclusively proving that vision happens when light rays pass from objects towards the eye and not from the eye towards the objects as thought by the Greeks. He presents experiments for testing the angles of incidence and reflection, and a theoretical proposal for magnifying lens (made in Italy three centuries later). He also taught that the image made on the retina is conveyed along the optic nerve to the brain. Razi was the first to recognize the reaction of the pupil to light and Ibn

Sina was the first to describe the exact number of extrinsic muscles of the eyeball, namely six.

The greatest contribution of Islamic medicine in practical ophthalmology was in the matter of cataract. The most significant development in the extraction of cataract was developed by Ammar bin Ali of Mosul, who introduced a hollow metallic needle through the sclerotic and extracted the lens by suction. Europe rediscovered this in the nineteenth century.

PHARMACOLOGY

Pharmacology took roots in Islam during the 9th century. Yuhanna bin Masawayh (777-857 A.D.) started scientific and systematic applications of therapeutics at the Abbasids capital. His students Hunayn bin Ishaq al-Ibadi (809-874 A.D.) and his associates established solid foundations of Arabic medicine and therapeutics in the ninth century. In his book al-Masail Hunayn outlined methods for confirming the pharmacological effectiveness of drugs by experimenting with them on humans. He also explained the importance of prognosis and diagnosis of diseases for better and more effective treatment.

Pharmacy became an independent and separate profession from medicine and alchemy. With the wild sprouting of apothecary shops, regulations became necessary and imposed to maintain quality control." The Arabian apothecary shops were regularly inspected by a syndic (Muhtasib) who threatened the merchants with humiliating corporal punishments if they adulterated drugs." As early as the days of al-Mamun and al-Mutasim pharmacists had to pass examinations to become licensed professionals and were pledged to follow the physician's prescriptions. Also by this decree, restrictive measures were legally placed upon doctors, preventing them from owning or holding stock in a pharmacy.

Methods of extracting and preparing medicines were brought to a high art, and their techniques of distillation, crystallization, solution, sublimation, reduction and calcination became the essential processes of pharmacy and chemistry. With the help of these techniques, the Saydalanis (pharmacists) introduced new drugs such as camphor, senna, sandalwood, rhubarb, musk, myrrh, cassia, tamarind, nutmeg, alum, aloes, cloves, coconut, nuxvomica, cubebs, aconite, ambergris and mercury. The important role of the Muslims in developing modern pharmacy and chemistry is memorialized in the significant number of current pharmaceutical and chemical terms derived from Arabic: drug, alkali, alcohol, aldehydes, alembic, and elixir among others, not to mention syrups and juleps. They invented flavorings extracts made of rose water, orange blossom water, orange and lemon peel, tragacanth and other attractive ingredients. Space does not permit me to list the contributions to pharmacology and therapeutics, made by Razi, Zahrawi, Biruni, Ibn Butlan, and Tamimi.

PSYCHOTHERAPY

From freckle lotion to psychotherapy- such was the range of treatment practiced by the physicians of Islam. Though freckles continue to sprinkle the skin of 20th century man, in the realm of psychosomatic disorders both al-Razi and Ibn Sina achieved dramatic results, antedating Freud and Jung by a thousand years. When Razi was appointed physician-in-chief to the Baghdad Hospital, he made it the first hospital to have a ward exclusively devoted to the mentally ill."

Razi combined psychological methods and physiological explanations, and he used psychotherapy in a dynamic fashion, Razi was once called in to treat a famous caliph who had severe arthritis. He advised a hot bath, and while the caliph was bathing, Razi threatened him with a knife, proclaiming he was going to kill him. This deliberate provocation increased the natural caloric which thus gained sufficient strength to dissolve the already softened humours, as a result the caliph got up from his knees in the bath and ran after Razi. One woman who suffered from such severe cramps in her joints that she was unable to rise was cured by a physician who lifted her skirt, thus putting her to shame. "A flush of heat was produced within her which dissolved the rheumatic humour."

The Arabs brought a refreshing spirit of dispassionate clarity into psychiatry. They were free from the demonological theories which swept over the Christian world and were therefore able to make clear cut clinical observations on the mentally ill.

Najab ud din Muhammad", a contemporary of Razi, left many excellent descriptions of various mental diseases. His carefully compiled observation on actual patients made up the most complete classification of mental diseases theretofore known." Najab described agitated depression, obsessional types of neurosis, Nafkhae Malikholia (combined priapism and sexual impotence). Kutrib (a form of persecutory psychosis), Dual-Kulb (a form of mania).

Ibn Sina recognized 'physiological psychology' in treating illnesses involving emotions. From the clinical perspective Ibn Sina developed a system for associating changes in the pulse rate with inner feelings which has been viewed as anticipating the word association test of Jung. He is said to have treated a terribly ill patient by feeling the patient's pulse and reciting aloud to him the names of provinces, districts, towns, streets, and people. By noticing how the patient's pulse quickened when names were mentioned Ibn Sina deduced that the patient was in love with a girl whose home Ibn Sina was able to locate by the digital examination.

The man took Ibn Sina's advice , married the girl , and recovered from his illness.

It is not surprising to know that at Fez, Morocco, an asylum for the mentally ill had been built early in the 8th century, and insane asylums were built by the Arabs also in Baghdad in 705 A.D., in Cairo in 800 A.D., and in Damascus and Aleppo in 1270 A.D. In addition to baths, drugs, kind and benevolent treatment given to the mentally ill, musico-therapy and occupational therapy were also employed. These therapies were highly developed. Special choirs and live music bands were brought daily to entertain the patients by providing singing and musical performances and comic performers as well.

CONCLUSION

1,000 years ago Islamic medicine was the most advanced in the world at that time. Even after ten centuries, the achievements of Islamic medicine look amazingly modern. 1,000 years ago the Muslims were the great torchbearers of international scientific research. Every student and professional from each country outside the Islamic Empire, aspired, yearned, and dreamed to go to the Islamic universities to learn, to work, to live and to lead a comfortable life in an affluent and most advanced and civilized society. Today, in this twentieth century, the United States of America has achieved such a position. The pendulum can swing back. Fortunately Allah has given a bounty to many Islamic countries - an income over 100 billion dollars per year. Hence Islamic countries have the opportunity and resources to make Islamic science and medicine number one in the world, once again.

The Role Of A Muslim Doctor

Prof. Mahmoud Abu – Saud

Disease and Cure

"Perfect health" is a wish that humans crave for. They know that they can never attain this state of perfection, if only because they cannot conceive what is "perfect". Accordingly, they satisfy themselves with a relative "good health", where the individual would be living without imminent suffering or pain. As living organisms, humans are subject to genetic and environmental influences that affect the functioning of their organs. Any negative effect would cause a disease.

The force of life inexorably urges living organisms to resist disease which constitutes by definition an obstruction to the fulfillment of the ultimate objective of the ailing organism. Not only humans who live for some purpose in life but one dare say every particle has a role and is commissioned to undertake it to the best of its ability. This innate tenacity in all organisms to function in accordance with

their respective eternal laws ministering their roles and missions is a part of what the Qur'an terms as "Tasbeeh".

"The seven heavens and the earth, and all beings therein, declare His Glory: There is not a thing but celebrates His praise, and yet you understand not how they declare His glory. Verily He is oft-forgiving most forgiving."

(XVII-44)

Both words "glorifying" and "praising" in the above verse have been used by translators to imply "Tasbeeh", but they should be construed to mean the conformity with the laws enacted by Allah to administer the ideal relationships among all beings in course of their functioning and performance. When there is any disturbance to our deviation from the inherent discipline of Tasbeeh, then there is a disease. In humans, such a disease can be pure moral (psychological), pure pathological, or moral-cum-pathological. When a person goes astray in his behavioral conduct, or when he contracts a virus infection, or where the cholesterol in his blood increases to the extent that affects his meditative faculties and behavior, this person is accordingly considered sick. To cure him, an appropriate course of treatment must be followed. The person who is qualified to judge whether a person is suffering from a "disease" as such, and who assumes the functions of healing is called a medical "doctor".

To help understand the role of the Muslim doctor, let us have a general idea about the texts in the Qur'an and Hadith relating to the subject. God talks in the Qur'an about moral disease and cure in several suras (chapters). He says:

"O mankind! There hath come to you a direction from your Lord and a healing for the (disease) in your hearts, - and for those who believe, a guidance and a mercy."

(X-57)

The "direction" in this verse to the Qur'an itself, it is considered a sure cure to any moral or psychological disease that may afflict true believers.

"It (Qur'an) is a guide and a healing to those who believe."

(XLI, 44)

There is no doubt that genuine belief in god can be the best cure for most of our psychological disturbances. It brings peace to our hearts as one reckons to his Creator and resigns in Him.

"But He guideth to Himself those who turn to Him in patience, - Those who believe, and whose hearts find peace and satisfaction in the remembrance of God: for without doubt in the remembrance of God do hearts find satisfaction and peace."

(XIII, 27-28)

Moral disease has been frequently expressed as disease in the heart. For instance, depicting the psychological picture of the Hypocrites (Munafiqeen) God says:

"In their hearts there is a disease; and God has increased their disease: and grievous is the penalty they (incur), because they are false (to themselves)."

(II, 10)

Transgressors, unbelievers and ill-intentioned individuals suffer from a moral weakness - a disease in their hearts. This term has been repeated about thirteen times in the Qur'an.

From the physical point of view, there are many verses that mention the ill and the patient, giving them due license from some commissioned obligations and prescriptions. For instance, the ill allowed not to keep the fasting during Ramadan, (11. 184), not to observe the usual ablution (IV, 43), not to abstain from cutting his hair during the pilgrimage (11, 196), not to respond the call of Jihad (IX, 9 1) etc. In general, the ailing person is treated as a special case and is given the due chance for recovery and is always given special treatment and licenses.

It is granted that Allah is the ultimate healer. Ibrahim (P.B.U.H.) arguing with his people about the omnipotence of Allah said,

"... (Allah) who created me and it is He who guides me, who gives me food and drink, and when I am ill, He cures me..."

(XXVI, 80)

However, Allah insinuates the need for treatment by ascribing a healing potentiality to honey produced by bees:

"...there issues from within their bodies a drink of varying colors, wherein is healing for men... "

(XVI, 69)

The Hadith, as usual, gave us striking revealing facts concerning disease and cure. Our Prophet (P.B.U.H.) informed us that the general rule is that there is a cure to every disease, whether we are aware of it or not. We know at present that our cells produce antibodies to fend against the agents of disease: the viruses and virulent bacteria. Homeopathic philosophy is based on helping the body to overcome the disease by giving the sick very small doses of drugs that would stimulate the same symptoms in a healthy person if given in large doses. In simple words, the well established Hadith narrated on the authority of Ibn Maso'ud "God has not inflicted a disease without prescribing a cure to it, known to whoever knows it, and unknown to whoever does not know it." (cited by Ahmad of Nayl-al-Awtar, V. 9, p. 89), this Hadith is a confirmation of the natural law of auto-resistance of self-defense. It indicates as well the necessity for discovering cures to our diseases. He (P.B.U.H.) said - on the authority of Usama Ibn Shuraik - when a Bedouin asked him whether he should seek treatment: "Yes, servants of God seek treatment; God has not set a disease without setting a cure to it, known to whoever knows it and unknown to whoever does not know it" (cited by Ibn Majah, Tirmizi and Abu-Dawood). And again, on the authority of Abu-Huraira, the Prophet (P.B.U.H.) said, "God has not sent any disease without sending a cure to it" (cited by Ahmad, al-Bukhari and Ibn Majah).

The Muslim Patient

Every human being is bound to feel ill sometime and somehow. A Muslim does not panic when afflicted with any sickness because his belief in the mercy of God, his faith in destiny and his faith enjoining forbearance and patience, all these elements give him strength to stand fast and endure his ordeal. However, he is supposed to seek treatment in response to the Prophet's (P.B.U.H.) order. By accepting the Prophet's (P.B.U.H.) statement that there is a cure to every disease, the Muslim patient builds up a strong hopeful attitude that helps him and his doctor to resist the disease and overcome it.

The Muslim Doctor

The Muslim doctor shares with the Muslim patient the two main characteristics: the faith in God and destiny, and the conviction that there is a cure for every disease. But the doctor must have something more; he is supposed to know, or at least try to know, the proper diagnosis and the proper cure. He must be aware of his mission or commission entrusted to him in his capacity as the agent of healing.

Being an agent, he believes that the act of healing is not entirely his, but it depends on God's will. It seems to me that medical doctors are more aware than others of the divine power and God's will. They meet every day with cases where destiny plays the major part and they encounter the most unexpected results. Our Prophet (P.B.U.H), on the authority of Yasir, says: "For each disease there is a cure; and when the (fight) treatment is given, the disease is cured by the Will of Allah", (cited by Ahmad and Muslim).

The art of healing, which is called the medical profession in modern language, has been highly respected all through the ages. For a long period in human history this art was closely correlated with religious leadership and quite often confluent with magic and miracles. Since the advent of Islam 1400 years ago, medicine has become a science subject to human intelligence and discovery.

Nevertheless, the medical doctor has persistently captured the appreciation and respect of his contemporaries, especially as medicine was usually associated with other philosophical and social knowledge.

In fact this close marriage between philosophy and medicine distinguished the medical history of Islam.

The gist here is that doctor's prognosis included the spiritual, psychological and social sides of the patient over and above the pathological aspects. I earnestly believe that in an Islamic state, all Muslim doctors in course of their every day practice, and when dealing with Muslim patients in particular, should keep this traditional prognostic attitude in mind. I am sure, if they do they will never regret the act.

But what is it that makes a Muslim doctor different from other non-Muslim doctors? From the technological and scientific points of view, all doctors fall in one category. However, when it comes to practice, the Muslim doctor finds himself bound by particular professional ethics plus his Islamic directives issuing from his belief. In fact, the Muslim doctor - and I mean by this that doctor who tries to live his Islam by following its teachings all through - such a doctor is expected to behave differently in some occasions and to meet greater responsibilities than other non-Muslim doctors.

1. The Public Responsibility: A Muslim doctor is supposed to belong to a Muslim community where there is some common cause, common feelings and mutual solidarity. "Believers are brethren" (IXL, 10) God also says:

"And hold fast all of you together to the Rope of Allah, and be not divided among yourselves: and remember Allah's favor on you,

for you were enemies and He joined your hearts together, so that by His Grace you became brethren..."

(111, 103)

The implication is the Muslim doctor is a member in a Muslim community where the same body of the individual is crucial for its survival and development. The doctor has a big say and great weight in influencing his patients and in righteously guiding their orientation. Besides, he should be actively involved in propagating true Islam among Muslims and non-Muslims. Almost all Christian missionaries depend on medical doctors when approaching alien masses, taking advantage of the humanistic service doctors render to poor diseased people. In a country like this where we live, the best missionary service to be rendered by a medical doctor is to behave at all the time in accordance with his Islamic teachings, to declare his conviction, and to feel proud of it.

Then he serves a good model that would convince others and gain their hearts.

2. Faith and healing: By accepting the fact that Allah is the healer - and that the doctor is only an agent, both patients - irrespective of their creeds - and their doctors, fight their battle of treatment with less agony and tension. I think it is an established fact that such spiritual conviction would improve the psychological state of the patient and boost his morale, and thus help him overcome his physical weakness and sickness. There are many examples where faith played a miraculous part in the process of healing. In my opinion, a Muslim doctor must make of faith the backbone of his entire healing procedure.

3. Reprehensible, Prohibited and Permissible Acts:

More than any other professional, the Muslim medical doctor is confronted more frequently with questions regarding the Islamic legitimacy of his activities.

There are almost daily controversial problematic issues on which he is supposed to decide: e.g. birth control, abortions, opposite sex hormonal injections, trans-sexual operations, brain operations affecting human personality, plastic surgery changing physiognomy, extra-uterine conception, etc. The Muslim doctor should not be guided in such issues merely by the law of the country. He must also find the Islamic answer and rather adopt it as much as he can. To find the answer is not an easy matter, especially if the doctor himself has no reasonably solid background in the field of Islamic teachings. Yet, to gain such knowledge is very simple and would not consume much time as generally presumed.

In general, every Muslim must have a preliminary knowledge of what is reprehensible and what is prohibited. One has to admit that our early education as individuals is very deficient in this regard. But this does not justify our ignorance of the essentials of our religion and our indifference towards its injunctions. There is no difficulty nowadays to obtain a few reference books about our Shari'ah and to find out the answers to most - if not all - our medical queries. The most preliminary study to the Islamic science of "Usul" would give the doctors the main principles of analogy, 'Qias', preferential application (Istihsan) and jurisdic initiation (Istihsan). The importance of such knowledge becomes conspicuous when the subject of the issue is purely technical and thus lies beyond the reach of the normal religious scholar. Besides, there are many secondary questions that arise in, the course of dealing with patients where the personal judgement of the doctor is the only arbiter. There, as always, the doctor needs a criterion on which he can build his code of behavior and the ethics of his medical procedure.

To conclude, the role of the Muslim doctor is briefly to put his profession in service of his religion. To this end, he must know both: medicine and Islam.

Health Guidelines From Qura'n And Sunnah

Shahid Athar, M.D.

This article is not about the glory of Islamic Medicine of past 1000 years which produced great physicians like al-Razi and Ibn-Sina. This article is also not about virtues of honey, the center point of discussion in most of the articles written these days on Islamic Medicine. This also is not an article saying that since science has now confirmed certain Quranic statements, therefore Quran must be a divine book. To the contrary, we begin with the belief that all Quranic statements are true, science has confirmed some of them in the past, and will confirm the rest in the future. If science has not confirmed it yet, it needs to examine its data more deeply, or may be repeat the experiment, rather than question the authenticity of Quran.

The Quran is not a book of medicine or of health sciences, but in it there are hints which lead to guidelines in health and diseases. Prophet Mohammed (P.B.U.H.) has set as an example to the mankind so his traditions in matters of health and personal hygienic are also a guide for his followers.

We start our discussion with the following verse:

"Everything good that happens to you (O Man) is from God, everything bad that happens to you is from your own actions".

4:79

Therefore, the pathology (disease) is defined by the famous pathologist William Boyd as physiology (natural state) gone wrong. It is our tampering with natural process that leads to unnatural outcomes.

Human body can be compared to some degree with a machine created by man. The fascinating tape recorder has many mechanical and electronic parts but life does not come to it till electrical current is passed through. Similarly, in the components of human body there are the anatomic parts and fluids but also the spirit (the soul). As the care of a machine requires keeping it clean, giving it some rest, and passing electricity of proper voltage, and using it carefully and wisely, so are the requirements for the body and of the body as whole.

Before we come to the physical care of human body, let us talk about the spiritual care.

The spiritual care involves the acts of worship. The problem is that Iman cannot be translated into belief, nor Salaat into prayer, nor Wudu into washing hand, face and feet nor; Sawm into fasting nor Zakat into charity nor Hajj into pilgrimage to Mecca. They are entitled in themselves.

A. Iman: The belief in God is the first and foremost important need for spiritual stability. Belief in God includes belief in his attributes, his angels, his books, the day of judgement, the heaven and hell and belief that - all good and bad is within his reach. Imam Rumi has called faith being superior to prayers. In illness, according to Imam Ghazali, the awareness of God increases and man becomes closer to God by realizing his own weakness. Without true belief, neither our prayer, nor charity, nor fasting nor pilgrimage will be accepted. The essence of belief is to rid ourselves of all false Gods around us, or within us, and to worship no one except God alone.

B. Salat: There are three health aspects of Salat

1. Wudu: Washing all the exposed areas of the body, hand, feet, face, mouth, nostrils etc. 5 times a day is a healthy preventive procedure. Hand washing is being emphasized more and more in hospitals now in order to prevent spread of germs. However non-Muslims did not know that hand-washing is so important - it has been ordered in Qu'ran (5:7) 1400 years ago. And for complete cleanliness bathing is advised (4:43)

2. Recitation of Quran: Has a healing effect on body, mind and heart. These healing effects are due to the effect of sound (Echo) and the meaning. The letter

Alif resounds unto the Echoes to heart and the letter YA resounds unto Echoes to the pineal gland in the brain.

"O Mankind: There has come to you a direction from your Lord and a healing for the (disease) in your hearts - and for those who believe a guidance and mercy!!"

10:57

"We sent down in the Quran that which is healing and a mercy to those who believe: to the unjust it causes nothing but loss after loss". The movement in Salaat are mild, uniform, and involve all muscles and joints. The caloric output is desired to keep the energy balance."

17:82

C: Zakat (Charity): The word itself means purification and growth. Here it is meant to imply the purification of legitimately earned wealth. Many of our crimes are committed with money or for love of money, and in the love of money one becomes violent in behavior.

And he is violent in his love of wealth:

100:8

In Islam the ownership of wealth belongs to God. We are the disposer of that trust. Therefore, this concept establishes peace at heart and our behavior in the loss of money or unusual gain, In either way, we thank God.

D. Sawm: The Islamic fasting: Islamic fasting is prescribed as way training of our mind, and body in self-restraints.

"O you who believe is prescribed to you, as it was prescribed to those before you, so that you can learn self-restraint."

2:183

Therefore, during the period of fast one may not only get rid of nibbling food, coffee, smoking but also of anger and excessive sexual passion.

In fact, the fast not only gives rest to stomach but also stabilizes the secretion of hormones which control our behavior.

E. Hajj (Pilgrimage to Mecca): The morale is Prophet Ibrahim's submission and absolute surrender to God's will, the opportunity for repentance, and the social and political gathering of the Ummah depicting brotherhood, and equality. However

this can be used for programming and testing us for physical endurance, a requirement for all able men and women. The long walks, the heat, the sun, the thirst, the physical exercise, etc. is to remind us of the day of judgement. We should perform Hajj when young and physically well rather than wait for the old age. We should keep ourselves in good shape before and years after the Hajj.

After describing pillars of faith as a basis for the spiritual health, let us talk about the maintenance of the physical structure in which the spirit resides.

(A) Nutrition: Allah loves his creations so much that he is concerned even with what we eat and put in our body. Our muscles, bones, lungs, liver, brain and secretions are made from the raw product we feed it. If we provide the factory with junk raw products, the factory will not produce tough bones, strong muscles, good pump (heart) and clean pipes (vessels).

"O you mankind: Eat of what is lawful and good on earth.

2: 168

"Eat of the things which god has provided for you lawful and good, but fear God in whom you believe".

Forbidden to us are dead meat, blood and flesh of swine (5:4) and intoxicants (5:93 and 2:219).

5:91

Science so far has not confirmed any beneficial effects to the prohibitions. The blood and meat of the dead could be full of germs and other harmful elements like antibodies. The pork meat is high in cholesterol, salt and may have worms, and alcohol and other intoxicants cloud our mentation, our inhibition and interfere with our normal capacity of judging good and bad. Therefore, a person under the influence of alcohol may want to take off his dress, engage in unlawful sexual acts, become violent and abusive without even knowing what he is doing. On medical damages due to alcohol, whole books have been written.

The second component in nutrition (after Permission of the lawful and probation of the unlawful) is the moderation in the lawful.

Obesity is a major American tragedy, a form of malnutrition, affecting million of people, of all age. 99% of obesity is due to overeating. Allah advises as to be moderate in quantity.

"But waste not by excess for God loves not the wasters."

7:31

"Eat of the good things we have provided for your sustenance, but commit no excess therein, lest my wrath should justly descend on you, and those whom descends my wrath do perish indeed."

20:81

According to one Hadith of Prophet Mohammed (P.B.U.H.) we are advised to leave one third of our stomach empty after finishing the meal. I understood this Hadith only when I broke my blender/mixer in the kitchen after stuffing it to the top and then turning the machine on. After all, what is stomach, if not a blender, grinder, mixer and food processor, all in one !!

Certain types of food i.e. fruits are especially emphasized in Quran (36:57, 43:73, 16:67, 50:68)

"And the fruits of date palm and grapes you get wholesome drink and nutrition: Behold in this is a sign for those who are wise."

16:67

Fruits are low in calorie, high in vitamins and minerals, and fiber and sugar is fructose and not sucrose. In a recent study by Dr. Anderson fructose has been shown to cause no rise in blood sugar and even lowers the high blood sugar of diabetics. Honey is fructose.

(3) Cleanliness: Allah is pure and likes purity. He is clean and likes cleanliness. Therefore, cleanliness of body and mind is stressed in Quran (4:43, 5:7). Miswak (brushing teeth) is not a new invention of last 200 years. This was stressed as part of our daily routine by Prophet Mohammed (P.B.U.H.). He also advised us on flossing (khilal) as now being advised by all the dentist. In fact, he is known to have said that if it was not hardship for Muslims, he would have advised miswak before each prayer i.e. 5 times a day. Cleanliness of our mind is prerequisite for total creaminess (body and mind).

Value of exercise in maintaining health

Though we do not find much in Quran about specific exercise, recommendation, the Prophet's (P.B.U.H.) life was full of recommendations. advised all Muslims to teach their children swimming, archery and horse riding. He, himself used to walk at fast pace even race with his wife, Ayesha (Ra). Most importantly, he used to work with his hands whether at home, in the kitchen, or with his companions collecting wood for fire, or fighting during wars etc.

It is a pity that Muslim men and women have become sedentary and, I because of excessive consumption of starches, obesity has crept into them. We should keep ourselves fit to go for jihad, and feel healthy in peacetime.

The State of disease

Many of the common chronic illnesses, coronary heart disease, hyper-tension, diabetes, peptic ulcer disease, obesity and depression have also common man-made etiology, that is rich food, too much food, too much salt, too much sugar, smoking, stress and alcoholism. If we give up excessive salt, sugar and cholesterol from our diet, and do not drink and smoke, and be active, it is possible that - the pump (heart) won't be rusted from inside.

What should a Muslim do when disease is confirmed

A. Accept it as a will of God as kaffara for his sin, and ask him to remove the affliction.

"If God touches thee with affliction, none can remove it- but He: if He touches thee with happiness He has power over all thing."

6:17

B. Many Muslims won't seek early medical attention, contrary to the Prophet's practice and teaching. In Christianity there is a sect believing in faith healing who have let their members die rather than go to the physician.

Usamah Bin Shareek (Ra) Reports "I was with the Prophet (P.B.U.H.) and some Arabs came to him asking "O Messenger of Allah, do we take medicine for any disease.-"-He said, "Yes, O You servants of Allah take medicine as Allah (SWT) has not created a disease without creating a cure except for one. They asked which one, he replied old age'.

C. Increase your knowledge of health and disease, of medications and side effects. This knowledge is not a monopoly of doctors. You can have it, and use it in preventing the illness, recognizing it early when symptoms appear, seeking early medical attention, then monitoring the course of disease, implementing the treatment (i.e. knowledge of diet for diabetics) and recognizing side effects of the medicine. Those of my patients who do as the above, make me very happy that I can trust their health to them as they do trust it to me.

In summary, our healthy body is a gift from God, we are the trustees, we should not misuse it, nor provide wrong raw product for the factory. and should keep

superb maintenance of this delicate and sensitive machine, in order to enjoy it will be the container of our soul.

Islam And Medicine

Hasan Ghaznawi, M. D.

Islam is the religion of all times and places. It is a perfect system of temporal values. By practicing its laws Muslims all over the world not only attain spirituality but the pinnacle of all other glories and gain the wealth of health.

There is a great inter-relationship between modern medicine and some of our Islamic teachings.

Every word of Qur'an is in fact an experience of great reality and science is just an effort made towards this reality. Knowledge is limitless and its horizons are constantly expanding with every strike of progress disclosing fresh informations and according to Qur'an knowledge is a comprehensive text and it involves all branches of science, religion, technology, agriculture, engineering and medicine. It is definitely a miracle of our sacred religion that it expands on all branches of human knowledge. This is known from the following quotation from Qur'an:

"We have revealed to you the Scripture so that it might be a clear evidence for every thing."

In the following paper I have tried to elucidate that the guide lines given in the Quran and Sunnah concerned with the promotion of physical health of humans have been duly proved by years of modern medical science research all over the world. Some of them I am going to deal with in this paper.

PRAYERS:

In Sura Moon "God deprecates those who are careless in their prayers offer them only for show." The blessed Prophet told us "Prayers are certainly health promoting."

Although the real purpose of prayers is the worship of God yet there is a large number of additional benefits also.

EXERCISE:

As we eat three times daily we need exercise to lessen the cholesterol in the body which increases in blood after meals, thickens blood and leads to the deposition of slit in the arteries.

In addition to saving us from the sins and elevating us to the heights of spirituality prayers are great help in maintaining our physical health. They keep our body active, help digestion and save us from muscle and joint diseases through regular balanced exercise. They help the circulation of blood and also mitigate the bad effect of cholesterol. Prayers play a vital role in acting as a preventive measure against heart attack, paralyses, premature senility, dementia, loss of control on sphincters, diabetes mellitus etc.

Collateral circulation plays a major role in decreasing the danger of heart attack in patients. Patients above 55 years of age in which this type of circulation is developed have less severe attacks. It is possible to speed up the development of collateral circulation by regular and balanced exercises which is present in the prayers are not only potent, preventive measure against coronary heart diseases but also help in the development of collateral circulation in those people who have already suffered from a heart attack or are prone to it.

Heart patients should offer-the five obligatory prayers regularly as they get the permission from their doctor to leave bed.

The arrangement of prayers is such that those at the time of empty stomach are brief but those after meals are longer and give more exercise to the body.

During the month of Fast (Ramadan) the additional twenty Rakaat (Tarawih) are added to the late evening prayers because more than normal food is usually consumed after breaking fast.

The performance of prayers put almost all muscles of the body in action. Different groups of muscles are activated while performing prayers. During Sajda blood supply to the brain is improved. One of the useful methods to strengthen the muscles of the knee joints to mitigate the strain on knees in osteo arthritis is the regular exercise of these muscles during prayers.

HEART:

This vital organ of the body has to be always healthy and efficient as it is responsible for the circulation of blood. Diseased heart results in deterioration of the healthy body. This knowledge we obtained after centuries of scientific research yet it was simply told to us fourteen hundred years ago by our great Prophet (peace be upon him).

"Verily in the body there is such apiece of flesh that if it remains alright the whole body keeps well but if this piece of flesh develops some defect the whole body becomes unhealthy. Behold,- this piece of flesh - it is heart." (Bokhari, Muslim ...

SIESTA:

It was the habit of our blessed Prophet to sleep for a while after lunch, his companions also followed this practice. This short nap gives relief to the vital organs of the body like heart and brain.

MODERATION IN FOOD:

Both Qur'an and Hadith have touched this topic, Qur'an tells us in Ayah 30 of Sura Al Araf:

"O children of Adam, look to your adornment of every place of worship and eat and drink but not prodigal. Lo! He loveth not the prodigals."

Strengthening this order, the Prophet has strictly forbidden over eating in the following Haith:

"It is enough to eat few morsels of food to keep one's back straight."

"If you must eat more, be sure that only one third of your stomach is filled with food, one third is left for water and the remaining one third for air."

"A Muslim eats in one intestine (stomach) whereas a non believer eats in seven intestine."

It has been proved beyond doubt that over eating is the root of many diseases and also responsible for premature senility. It produces obesity, predisposes to dangerous diseases like diabetes, Menitus, hypertension, coronary heart disease and paralysis.

DIABETES MELLITUS:

This is due to insulin deficiency. Overeating gets the special cells of the pancreas (islets of Langerhans) over worked so it cannot meet the increased demand for insulin. Those cells may get tired, atrophy and causes deficiency of insulin.

PARALYSIS, CORONARY HEART DISEASE & PREMATURE SENILITY:

Their basic course is the narrowing of the coronary arteries. Paralysis is the natural result of blocking of an artery in the brain, should this happen in the heart Myocardial infarction results. Premature senility is installed when majority of the arteries in the body get narrowed.

Slit in the form of cholesterol and triglycerides is deposited in the arteries. Over eating increases blood cholesterol levels. Pork and beef contain high cholesterol values while on the other hand birds have the least amount. Qur'an mentioned that birds meat is one of the specialties of Paradise.

Olive has been repeatedly mentioned in Qur'an, and statistics shows that heart attacks occur more in Northern Italy where they use butter and margarine for cooking than in Southern Italy where olive oil is generally used.

Patients suffering from narrowing of the coronary artery usually develop the heart attack after a heavy meal.

FORBIDDEN ARTICLES OF FOOD:

1. Blood:

Ingested blood on reaching the intestine is acted upon by various bacteria normally present there resulting in poisonous products like ammonia which is toxic to the liver. Therefore, God has forbidden us to eat or drink blood and has prescribed such a method for slaughtering animals that most of their blood is shed.

2. Pork:

There are two harmful worms harbored by pigs, one is "TAENIASOLIUM" which on ingestion passes to the brain and causes epilepsy. The other one is "TRICHINELLASPIRALIS" which passes to the muscles and brain causing muscular swelling and pain and also epilepsy. Pork has more fat and cholesterol than any other meat.

3. Alcohol:

Numerous diseases have been attributed to alcohol like dyspeptic trouble, peptic ulceration, cancer stomach, pancreatitis, cirrhosis liver, vitamin deficiency and coronary heart disease.

CIRCUMCISION:

One of the criteria of Islam is that every Muslim should be circumcised. This is medically suggested now a days as a toxic substance called Smegma may collect under the redundant skin causing cancer of the genitalia in both man and his wife, inflammation of the penis, phthysis, sticking of the redundant skin over the urethral opening leading to difficulty in urination.

WASHING AFTER DEFECATION:

This beneficial habit saves us from Pilonidal sinus which is an abscess with hair inside occurring near anal opening.

Pylonephritis: This is more in women due to the proximity of the urethral opening to the anus so toilet paper while being used may bring germs like E. coli to the urethra.

ABOLUTION:

A pre requisite of prayers yet one of the most hygienic procedure as it usually keeps the exposed parts of our body clean and also the parts of entry like mouth and nose thus avoiding Infection.

PREVENTION OF INFECTION:

Infection may be transmitted through dirty hands or dirty food.

Hands: It is essential to wash our hands before and after meals. Our blessed Prophet told us:

"It is a blessing to wash your hands before and after meals" (Abu Daud & Tirmizi)

He has also advised us not to clean our hands with a towel before meals as they may convey infection from one person to the other particularly viral diseases like infective hepatitis or bacterial infection like Typhoid dysentries and cholera.

Or Prophet said "Whosoever gets up from slumber should not dip his hand in any utensil unless he washes them three times, who knows what things he has been touching during sleep." (Bokhari, Muslim, Abu Dawood, Nisai)

ARTICLES OF BEVERAGES:

These articles should be handled with great care. If the food is in open utensil they should be covered to avoid contamination. Stressing this our Prophet said "Cover up the utensils and tie the mouth of the water skins." (Bokhari, Muslim)

He said, "Why did you not cover the utensil carrying the milk even if-it was with a piece of wood."

DENTAL HYGIENE:

Particular stress has been laid by our Prophet on this as it is very important in the prevention of disease. He attached great importance to "Miswak" a twig of a tree

used for brushing teeth. "If I had not thought this to be an unbearable hardship for my followers I would have prescribed the use of Miswak before every prayers." (Bokhari, Muslim)

According to modern dentistry the best method of using a Miswak or a tooth brush is up and down the length of the teeth and this exactly the way our Prophet used his Miswak.

KHILLALA:

The blessed Prophet said "Whosoever eats should pick bits and pieces from in between his teeth."

It is beneficial act so that those do not rot and produce disease.

HEATSTROKE:

Covering the head and neck as our Prophet used to do, mitigate the danger of hyperpyrexia which is due to imbalance of the heat control centre situated in the hind brain, which may lead to death.

TREATMENT OF FEVER:

Death occurs if the temperature of the body exceeds 106 degrees irrespective of the cause. Medically speaking the first line of treatment is to lower the temperature by cold water, ice sponging or even immersing the patient in cold water. On this Prophet said:

"The fever is related to the Hell. Application of cold water keeps it away." (Ibne Maja)

CONSTIPATION:

The blessed Prophet advised that while defaecating keep pressure on the left foot (Tibrani). In squatting position this maneuvers will cause pressure on the descending colon. Medically this helps evacuation of feaces from the descending colon thus relieving constipation, particularly when muscles of the abdomen are weak.

DISEASES OF DIGESTION:

Several Hadiths pertaining to this were said:

"It is unbecoming to eat in the Bazar (Market)."

"Whosoever eats earth aid his death." (Tibrani)

" Use curry with food even if it is in the form of water. " (Tibrani).

"Vinegear is a very good curry."

"The best curry is common salt."

Salt depletion through perspiration during summer is increased thus it is obligatory to use common salt during this period.

Our Prophet liked pumpkin (one of the vegetables) as it is easily digested and less likely to produce flatulence.

Our Prophet said. "It is not right to eat your food quickly, besides this one should eat from what lies nearest to one" (Bokhari, Muslim)

EPIDEMIC PREVENTION:

Hygiene is very important. Cleanliness prevent infection entering the citadel of human body and this guards us against ill health and epidemics- God ordered our Prophet in Sura Al-Muddassir:

"O, Prophet keep your apparel clean and meticulously avoid filth and rubbish."

Our Prophet said, "God Almighty is himself pure and likes purity, God himself is clean and likes cleanliness."

(Tirmizi)

"God Abnighy dislikes dust, dirt and disheveled hair."

"Avoid three things which are cursed. To urinate at the source of water, in the shade, in the pathways."

(ibne Maja)

"No one should pass water in standing water."

(Bokhari, Muslim, Abu Dawood)

"If any one of you yawns,,cover your mouth with hands."

(Muslim, Abu Dawood)

One should avoid coughing, sneezing, yawning or laughing with fully open mouth near other persons as the breathed out bacteria may spread in the atmosphere and be conveyed to other persons.

STREET AND ROADS:

Town planning is based on broad and airy roads so that there is no obstruction to the flow of traffic and to avoid congestion which helps of communicable diseases. Our blessed Prophet fourteen hundred years ago said "keep the breadth of the streets seven arms length.

ACUPUNCTURE:

Ibis was mentioned in the authenticated Hadith as an effective treatment of several disease. Research work is being carried out in China and other parts of the world to use acupuncture as a method of treatment.

There are other aspects of medicine which have been dealt with in Islam for example:

1. Quacks should not treat patients.
2. Treatment and prevention of disease have been recommended and practiced by the Prophet.
3. When you visit a patient do not stay long.

There are many priceless gems of knowledge in the Qur'an and Hadith from which man can benefit immensely. These are but brief facts of medicine which have been mentioned before in Qur'an and Hadith and there is a lot more to be discovered and studied.

Adab Al – Tabib

Prof. B. A. Zikria

This is an excerpt from Transactions of the American Philosophical Society, Vol. 57, Part 3, 1967. "Medical Ethics of Medieval Islam with Special Reference to Al-Ruhawi's Practical Ethics of the Physician", translated by Martin Levey.

Permission for printing of excerpts from TAPA has been obtained.

Ishaq ibn Ali Al-Ruhawi lived around 1200 A.D. and was born in Ruha, a city in northwestern Iraq, today known as Urfa. His book, called "Adab Al-Tabib, the Conduct of a Physician", is a classic in the annals of medical ethics. We shall continue to print excerpts of this classic in future issues.

Statement on the Procedures and Policies by which the Physician Must Conduct Himself in His Daily Life.

We say that it is necessary for the physician, after he expends (his efforts) in what has been mentioned in the pursuit of science, that he do his best every day to cleanse whatever issues forth from the orifices of his body as his nostrils, eyes, nose, etc., and to wash them with water. Excesses should not be in evidence in these openings; this occurs with excessive eating, drinking, and harmful use of these. Therefore, for this reason, the most beneficial method to purify the senses and to cleanse them is the improvement of food and drink.

Further, the physician is obliged to frequent assemblages of the virtuous, learned, and men of letters amenable to him. It is not polite for him to expectorate, yawn, stretch himself, and to do similar things. All these and those like them are caused by being sated with food and drink. The physician must avoid them and whatever fills the head. After that, he must take care of his mouth by means of a toothpick and tooth medicine to polish the teeth and to perfume the breath and strengthen the gums of the teeth. This is done by means of schoenanth, cyperus, and others similar. He chews aloewood a little at a time to perfume the gums of his teeth and to strengthen his stomach and brain. Mastix and similar (gums) are also like it. For this reason, Galen said, "There was a man who had a bad odor in his mouth; he took care of it to the extent that it decreased by vomiting, purging, and drinking the remedies which improve it, Then, every day he put in his mouth cardamom, sometimes cinnamon, and sometimes other odoriferous substances. After he did this, he could not leave his house."

Then it is necessary that he follow this by examining the odors of his other bodily organs. That which is bad is removed by an opposite odor as nutmeg for the odor of the armpit, and aromatics which subdue unpleasant smells.

He must also investigate any excess in his organs not needed for the body as excessive nails, too much hair on his head and face, etc. He removes them.

After these, the physician must take care of his clothes, keeping two facts in mind. One is that they must be useful and soft and warming in winter, and thin and soft in summer. The second is that they must be (garments) of beauty when he is near people of his status. The physician to the king has need of more clothes than does one who serves the public.

The physician must guard all his five senses and not use them except for a beneficial purpose and to repel harm. If he speaks, he must talk of science and knowledge, and no foul word must be heard from him. He must be cautious in his use of words especially in the assemblage of kings and chiefs. He does not ask (anything) except what helps his problem, and he does not answer except when he is queried.

In the same way, he must guard his sight, not beholding anything vile which may be injurious, if it is not necessary. This is true even as a boy. He must try always to look at the books of his art and at the code of his divine law since the books on divine law determine morals and encourage good works, and the books of his art help him to acquire knowledge.

It is essential that the physician take care of his hearing, trying not to talk with illiterates nor to listen to statements of the wicked and those of the sects with evil opinions. This is possible when he does not sit in company with those who do these things, and if he does not mingle with or speak to them, as far as possible. If possible, discussion with a virtuous one (is desirable); otherwise to sit down (alone) in study is the greatest of friendship.

He must be careful in guarding the rest of his senses by keeping away evil smells and corrupted odors from the brain, or the factors which corrupt his body. He should try to improve the air of his dwelling and his office. This possible by not being close to that which corrupts the air such as a copper, smeltery, the furnace of a bathhouse, a place where corrupted water accumulates, a tanning yard, and the like.

Then, the physician must divide his day and night times according to his needs and practice. He should try to choose the time of sleeping so as to be at a minimum and only in that amount of need. This is because sleep is like death, and deeds are accomplished only in wakefulness. For this reason, the period of wakefulness must be longer than that of sleep. An example of this, is that his actions must be according to schedule, is that the first of the acts of a rational one after rising, from his sleep and cleansing of his body and the organs of the senses, in accordance with the preceding statement, is prayer. This is because thanks giving to the Benefactor, acknowledgement of His unity, and humility before Him (is due) since He is the origin of all good, the Almighty, the doer of what is necessary in reason and divine law. He justifies withdrawal from vice and pure sin by cleansing the heart. And he answers prayers and gives to all the beloved. For this reason, the first act is prayer, also (it is) the last act of the evening.

Then the physician turns from prayer to the reading of the book of his religion since it orders him to do good. Then he turns to the reading of the books of medicine according to the order of the ancients.

Then when it comes to visiting, the sick, he prays again saying the morning prayers asking the exalted and hallowed God to help him prosper in his success with his patients. He then goes out with good intentions to his patients who have been exposed to many sort of disagreeably matters and their eyes are sleepless from the depth of (their) calamity. He praises God for bestowing so much on him and asks his help for their recovery so that when he comes to the patient, asks about the symptoms, and diagnoses his case, he soothes his mind and promises him recovery and health.

If the patient and the one who serves him understand, then the physician describes the remedies to them and allows them to go on with the therapy. If it is not understood, then he must, with his own hands, undertake the treatment that is necessary; he (i.e. the physician) does not explain anything to (the patient). In maintaining silence as to the diagnosis for one who would not understand, in case of error, it is better for the patient and for the physician. After he has completed the visit to his patient he must return to the above mentioned office to treat any of the patients and to understand the problems.

Here. I have not described how it is necessary to query the patients, nor how the patients must behave, nor how to serve them since I have set apart separate chapters for each of these. They will come later by the help of God.

The physician must better his relationship to and endure the distress of the patients. He must pay attention to any statement heard from them. No matter what the circumstances, he must acquire information from anywhere or anything which may prove beneficial to the recovery of the patient. The physician must not discourage any complaints of the patient or display of his distress since these symptoms which occur may be important in the diagnosis of the illness. The physician must show mercy; this is not possible except by the fear of God. If the physician has these traits, then he speaks only the truth and does good for all the people.

When he has attended to the needs of the people, then he pays attention to bodily matters by bathing, eating and drinking. These are done in proportion according to what is best for him in quantity and quality, and according to the time and place. If he must eat with others, he does not ape them in eating and drinking but he organizes all the natural things according to what is essential and in the amount of what is needed, not according to taste. He teaches the correct way to others in this.

He masticates well what he eats and sips what he drinks.

It is best for the physician that he not sit down to drink wine in company since by this he loses time and his status is lowered. He must also beware of frequent association and mingling with young men since this would not free him from the illiterate and insensitive. It is not proper for the physician to contend with women in pulling so as not to be held in contempt by the people and chiefs. It is not correct for the physician to earn property by trade since that holds him back from science. It is not in his best interests for the physician to occupy himself with play and playthings so that he may not become weak-minded and silly. Flattery is not fitting for the physician since it is of the morals of the crowd. Envy is not good for the physician since it causes him to fall from his position.

This, which has been described, is necessary for the improvement of the physician's body just as I described, in an earlier chapter, the improvement of his soul. What I have mentioned in this chapter regarding the affairs of the body is sufficient for those who have intelligence and are acquainted with the literature.

Historical Notes

The JIMA believes not only in the revivalism and firm establishment of the tenets of the Islamic faith within the individual and within Muslim society but also in restoration, review, research and compilation of the knowledge of the brilliant past of Islamic Medicine. We have proposed to several Islamic countries to open a department of Islamic Medicine in their medical schools as well as to establish an Institute of Islamic Medicine for gathering extent works of great Hakims of the past, to translate them, to do clinical and laboratory research on their empirical findings and their vast Pharmacopoeia.

To this end, we have obtained permission first to publish in parts the translation by Martin Levey of Adab al-Tabib of Al-Ruhawi's "Practical ethics of the physicians" which was printed by the American Philosophical Society as the Transactions of APS, vol. 57, part 3, 1967, Philadelphia.

Who was Ruhawi?

Ishaq Ibn Ali Al-Ruhawi must have written his deontological treatise, Adab al-Tabib in the 9th century. After al-Ruhawi, to complete the picture, one should mention two of the greatest physician-philosophers of the Islamic World, al-Farabi (d. 950 A.D.) AND IBN SINA (B. 980 A.D.). Al-Ruhawi was probably from Ruha, a city of northwest Iraq. Earlier, it had been called Edessa, a well known center of Nestorian learning at one time. He was a Christian who embraced Islam and had written two works on Galen.

Al-Ruhawi's Adab al-Tabib is found as a unique copy in the Suleymaniye Kitabhane #1658. It comprises 112 folios, seventeen lines per page and is written in a good Nashki hand. The dedication is to the Sultan Bayezid.

In previous publications the first chapter and part of chapter 11 of Ruhawi's Adab Al-Tabib were presented. JIMA will continue to publish pertinent sections and chapters of this great work of the second Islamic Century . (9th century A.D.).

Statement on Edible Matter

(Ruhawi's Adab al-Tabib translated by Martin Levey)

Since what we have mentioned in regard to the five senses is useful for systematic improvement, a word is in order on the natural matters as an example and for guidance,. We mentioned the natural matters of air, exercise, and rest. It is necessary to follow up with a statement on edible matter, by the way, with brevity and with mention of useful factors which will encourage and urge one to study science in its occurrences and its books.

I say that edible matter may be called food as a synonym since food is sometimes made of it. Real foods are substances which are distinguished from edible matter by the first, second, and third cooking, and their superfluities, which are not eaten, are thrown away. Those substances remain which are suited to become a part of the one who eats [them], and takes the place of what was lost by him since they make a quantitative excess. In this way, he is not dissolved away and does not perish.

The situation is such that you will find that edible things have different tastes and qualities, and accordingly affect the body in various ways. Thus, it is necessary to know their composition and functions. I mean also that one should also understand the body and its natural complexion; together with this it is indispensable for you to know the natural or acquired complexion of its stomach.

Our excellent teacher Galen encourages and leads us to this in his book On Nutrition. He said, "It is necessary that one be careful to know these matters. You find that foods sometimes are slow to swell up and sometimes quick. This depends on the reaction of the stomach at the beginning or by the substances in that which was eaten and drunk. Because some of them are moist, some dry, some viscous, some quickly separating and falling apart, some pungent and acrid, some sour or bitter or sweet or salty, and sometimes these properties are found in drugs, therefore properties of foods are considered as easy remedies." It is essential that the physician take Galen completely at his word to the full extent of this science for the preservation of life is of great importance.

Galen said that the science of the properties of foods is close to being one of the most useful of medical sciences. While there is not always need to employ the other [sciences] for bodily health, the need for food is always present, both in times of health and illness, for life does not go on without it.

It is not necessary, O physician, that you imitate any writer in regard to the properties of foods, their states, and their functions in the body. Some have written volumes on the basis of experience but this experience is insufficient when applied to an actual case. You may, however, find some similar factors which are common but it is not sound to judge by these merely. An example of this is that you find several things which cause diuresis or facilitate an abundant flow, and so on. You find that some are cold and some hot. In teaching this, Galen quoted the scholar and physician before him called Theophilus. It is this, Galen said that Theophilus stated that men are not wise who believe that a single property like taste or heat or smell when found in two things will make them all alike. Aside from this common factor, there may be many different properties. One must not, therefore, treat all substances which empty the belly, or cause diuresis, or have any other common property, as being alike in all their properties. This is so because that (substance] may be hot or cold or salty and not every sweet or salty thing has the same strength in taste. But one may consider that the resultant action of a substance comes from its total make-up. Whoever grasps this principle will make no mistake and will not lose the truth.

It is not convenient for you to hold back anything of a food or drug because of its effect on one sense, and so believing that it possesses only this effect. Sometimes you find that what seems very apparent is one thing but its actual effect is another. Examples are the lentil and cabbage which act oppositely [to their effect on the sense of smell]. They empty some bellies and fill others; they do this since in their creation they are made up of two different substances having two different properties in composition and complexion.

Galen said, "As to the reason why the lentil' empties and softens the belly of some people, and does not restrict and block it, I add that I explained this in the book On Simple Drugs. It is that many kinds [of drugs] which are considered to be simple and single are compounded, at the beginning of their creation, of different substances with opposite properties instead of what we compound with our skill. In them, there are different activities. You find these in many foods like the lentil, cabbage, and all sea animals which have a skin with a sharp taste; each one of them is composed [of substances] with opposite properties. Thus, their body is hard and slow to swell, the belly is under control and may be emptied. The explanation for this is what when they are cooked, their soup empties the belly but its hard body keeps the belly under control. People, however, disagree about this.

When considering foods, the conditions in the stomach [should be recognized]. You may find that a flame heat dominates it. This may be so because of the complexion brought about in creation or yellow bile which pours into it because it has been deviated from its source on its way to the intestines. In this case the stomach digests some foods which are thick like beef, etc., and the thin ones like the meat of chicken and partridge spoil in it. It is not necessary to examine and experiment with the foods to prohibit some since some are quickly land some are slowly digested, according to the conditions in the stomach. Since this stomach condition is far from normal, it is not correct to make a judgment on the foods in it.

It is necessary to examine once more the question of foods. Some edibles which are in abundance resemble body matter. These are wheat, barley, rice, and similar grains; also there are palatable foods as animal meats which may be quickly cooked and digested. All of these and what is similar to them feed man when they are well prepared; they are good nutritionally.

As to the edibles which do not resemble the body of the eater, when they are together with non-nutritional matter [they] may make one ill if he does not know how to use them. These edibles have excessive sourness, are excessively salty, excessively sweet, and an excessively styptic acidity may predominate. These are more like drugs. Between the extremes of these edibles and their opposites, there are many which, when well prepared, will nourish the eater and not injure him.

There are also those which, because of moderation in taste, are often employed to improve bodies. It improves the health of old people, especially those whose complexion is cold, in whom phlegm predominates, in periods of cold and in cold countries. Understand this, and compare with it the rest of the edibles which have obvious and different tastes. When you recognize good food, then beware of an excess or deficiency but favor moderation. This is better.

Hippocrates had a saying that every excess is an enemy of nature, and a deficiency is lacking in trustworthiness. When one exceeds the natural amount, Hippocrates stated that there is no bearing or appetite or any other favorable thing. Hippocrates also said that when excessive food is ingested, it is superfluous and causes illness with its coldness.' He stated that it is important that one predetermine the amount of food for the body with regard to the state of the season in which one is. There are two seasons, summer and autumn, when the body cannot endure excessive food. In regard to the seasons of winter and spring, it may take much food. Hippocrates pointed this out in a statement when he declared that the most difficult period for the body to take care of food is in summer and autumn; the easiest time is in winter and spring. Galen explained and commented upon this by saying that bodies begin to be cold in the autumn, to come together to be thick,

and then in winter to loosen and to be light. Galen said also that in winter and spring, the belly is hottest and sleep is longer, Because of these two reasons, more food is necessary since more natural bodily heat is required then. Thus, more food is essential. Evidence of this comes from the aged.

It is also indispensable to know the time of the meal and the small snacks. I mean that it is necessary to eat during the day and night, and [it is necessary] to know the time between meals. The eater must know this and also the speed of his digestion, and also how long it takes his stomach to be emptied of the last meal and of spoiled mixtures and excesses. Hippocrates summed this up when he stated in On Epidemics, in the sixth discourse, when he arranged for the food after exercise and before sleep. He said, "Weariness, food, sleep, and coition must be aU organized by a natural arrangement." He meant that one must predetermine intentionally the quantity of exertion of each one by the eater. Hippocrates said that the body which is not clean, whenever it ingests food, makes its advances in evil

In some edibles like vegetables, there is very little nutriment; in some there is much as in animal meats and hard grains. Some are in between these like the meat of lamb, chicken, partridge, the yolk of eggs, etc. For this reason, it is necessary to know the science of this to use what is valuable according to the need. [Another reason] is that the spoilation of some edibles is rapid since they change so quickly; some are slow to spoil since they are resistant.

Thus, it is incumbent upon the physician to know the arrangements of food according to this and according to the condition of the stomach. It is often convenient to present the quickly changing foods first before those which ripen slowly in order to facilitate the penetration of a hard one so that it not be spoiled were it to precede the quick one. To eat melon, apricot, and others first before bread and other edibles is better. For this reason, one must be careful what he eats after the meal so as not to spoil the food, mixtures, and the stomach. Do not neglect, in view of what i have presented, to take account of age, heat, the countries, habits, occupations, and conditions since the science of an these is necessarily indispensable for everyone who wishes to nourish his body properly. Carry on by these and compare them.

Statement on Beverages

As to drinks, know them in regard to their properties and actions to employ the useful and to beware of what is harmful. One cannot know their temperaments and qualities. Since water is the earliest known (of drinks) and the most honorable in temperament, quali6es, and usefulness one should know its properties in regard to bodily change.

Under normal circumstances, there are none. It is substance without color, without taste, and without smell but it is cold and moist. Its body was created without form, and without connection among its parts except that which is united when it is in a container. It is not nutritious unless one considers its use in the cooking of food and its penetration into parts of the body.

As to the water which is contrary to that here mentioned, its matter has mixed with other matter possessing other attributes like sulphur and borax waters, etc. Waters like these have different tastes and properties. Owing to the fact that they vary in taste, smell and weight, for this reason, they affect the body in different ways. The physician must know the properties of waters and their differences. Otherwise, if the question of water is neglected, great harm will come to the body; this is because it is essential for life and its need is continuous.

So far as internal harm to the body is concerned, then, there are the matter [of water], the matter of the air, the factor of the seasons when they change, and the effect of the winds generally in [some] countries. Therefore, Hippocrates said that he, who wants to study medicine the straightforward way, must do this that I describe. It is, first, that you must consider the times of the year and what can be done since they are not alike. They are very different not only in themselves but compared also to others. Then, attention must be paid to the hot and cold winds, especially those common to all people and those peculiar to each country. It is also necessary to consider the properties of waters since they may not only differ in taste and weight but also be different in [other] properties.

When we reflect on the results of Hippocrates' advice, we understand that water is important, when suitable, for the preservation of health; it is harmful if not suitable. No one can be more discriminating in acquiring this [knowledge] than were the ancients. The most efficient in this was Hippocrates so listen to his teaching and hold on to it in order to attain your wish in the art of medicine.

Hippocrates said, "I want to inform you of the other waters and which of them are more effective in bringing good health. I shall describe what it is necessary to derive from evil and salty waters since the kind of waters is very important in aiding health.

There are waters which are stagnant, tainted and are at the bottom. These are warm, odorous, and thick in summer for they do not flow. They are used since rainwater does reach them. They tend toward a dirty color and are bitter. In winter, they are covered with ice, and are turbid with the water coming from snow and hail. These waters are the most apt to cause phlegm, hoarseness, and a large, hard spleen in the one who always drinks them.

He said that these waters are bad for all things. Further, those waters which issue forth from rocky places are harsh like those which come from earth where there are hot waters, or where copper, silver, gold, sulphur, alum, or borax are produced. It is because these are produced from a hot shaft and it is impossible that good waters come from this earth. They are harsh, cause difficulty in urination, and prevent excretion.

He said that the best waters flow from lofty and high places, from mountains which have soil. These waters, whose sources are deeper, are palatable, pure, have little redness, are hot in winter and cold in summer. Superior waters, he said, are those whose sources are opposite to the rising locations of the sun; those after them (in superiority) have their sources between where the summer sun rises and sets. The third best are the waters [whose source is] between where the winter sun sets and where the summer sun sets. The worst waters arise opposite to the north. The waters are very bad in the times of the southern winds but; better in the times of the northern winds. He said that it is necessary to use these waters knowing this. As to the healthy and strong person, it is not essential that he discriminate among the waters; he drinks what is available. He praised rainwater as the lightest purest, most palatable, and finest of waters. This is because when the sun raises the water, it carries off the thinnest and lightest. Consider the use of the saltpan where the salty part of the water remains because of its thickness and heaviness, becoming saltier. The sun carries off the finer water; since it is light it raises it. It is raised from palatable waters, from sea water, from all bodies, and from the bodies of men continuously [especially] that which is the thinnest and lightest of the moisture.

Thus, when a man walks or sits in the sun and puts on his clothes then that part of his body exposed to the sun does not seem to perspire since the sun always carries away the perspiration by evaporating it. That part of his body which is covered with clothes or anything else perspires because the sun causes the sweat to come out. The covering keeps and preserve it. When this man moves into the shade, all his body is so since the rays of the sun do not fall upon him. For this reason, rainwater may be putrid and have a bad odor since it comes from many different kinds of moisture and is mixed with them. As a result, it is the first of waters to stink.

Then, after Hippocrates demonstrated how rainwater comes about, he said, "This water may be the best of waters but it needs to be cleansed by boiling." Then he said, "If this is not done, then it develops a bad odor and it causes the drinker to be hoarse, to cough, and to have trouble with the voice." Then said Hippocrates, "As to the water from snow and ice, it is all bad since when water is once frozen, it will not get back to its original properties but that which is pure, light, and palatable is expressed. The sediment and what is close to being a solid remains."

I have mentioned these quotations from Hippocrates to show the pressing need of water and to encourage you to study this science in the books of Hippocrates and Galen.

I shall now return to the value of taking hot water baths. The value of this bathing is different for the sick and for those who are well. For healthy people, it is good to bathe in potable, cold water, or for some in water with salt or borax, and for some with other tastes, hot and non-hot water. These waters may be good for some sick people but not for all, for people of certain ages but not for all, in some but not all countries, and depending on certain habits.

In this, there may be much error; it is necessary to be aware of it and to study it. Strive to know the good from the bad waters by the method described by Hippocrates. These methods are these. Make your decision according to the lightness of the water. its ability to become quickly cold or hot. Hippocrates said about this, "The water which warms quickly and becomes cold quickly is the lightest of waters." In the fifth section of his book, he said, "The lightness of its weight is so in comparison with any other, and is seen in the rapidity of its drying with what was kneaded with it, and in the quickness of cooking what is cooked [in it]."

Statement on Sleeping and Being Awake

The physician takes care of the matter of sleeping and waking and knows the function of each in healthy and sick bodies. Thus, he should be able, according to bodies of animals, to predetermine the state of a sufficient and suitable amount [of sleep] for the preservation of health and treatment of the ill. This is because sleep is a natural thing without which man cannot retain his health; there must be a definite time for it in the natural order.

The excellent Hippocrates explains it in the sixth discourse of the book On Epidemics. He said, "Weariness, eating, sleeping, and coition all must be done planfully. " Galen interpreted "planfully" as meaning the limitation of their quantities for every man, as [the amount of] sleep is found naturally for different ages of man. We say that it is the kindness of the exalted God who created sleep and rest for the animal's body in order to return to it a replacement for that which was lost from it during waking. This is because during waking the natural heat expands to the outside of the body and to other regions, and spreads with it the blood which helped it form. It is spread in the body so that the animal moves by the power of [this] heat to its activities and to obtain food for survival.

Whenever it moves, moisture is lost little by little to cause dryness. If it keeps on moving and the waking is not interrupted, then the dryness becomes excessive to

its body so that it will die. For this reason, the exalted God made the times of sleeping between the times of waking. This is so that the heat is gathered during sleep inside the body and cold is outside; the organism of the animal relax, its senses abate, its actions stop, and heat begins in the digestion of food, in improvement of fluids to aid the organs.

The latter exert an attractive power and are moistened in this way. This is the opposite of losing [moisture]. With sleep, also strengthening are the retentive faculty, the altering power, and the evacuating strength. Due to the soundness of these four powers and the efficiency of their activities, the body is healthy and its functions are proper. In addition to strengthening nature, sleep weakens the physical powers; the senses and faculty of reason are weak during it due to their abdication of these functions.

If this is so, then the physician must know the amount of sleep and work for each man for everyone has a natural quantity which he requires according to his complexion, his habits, his activities, his food, his age, season, and the state of the air. If one of them [i.e. sleeping and wakefulness] is not in its properly natural quantitative state and time, then it indicates divergence from bodily health. For this reason, Hippocrates said, "If sleep and sleeplessness are excessive, then the necessary amount is a bad sign." When the physician sees this, then he knows that this immoderate condition indicates disease in the brain. This is because sleep is a special state of the brain and occurs when it is cold and moderately moist. If these are excessive then they cause cold brain disease. For this reason, Galen said that sleeplessness comes from coldness of the most important sentient, the brain. When this coldness is strong and mixed with moisture, then the disease called *lasir'as* occurs which is cold vertigo. When dryness is also with it, the disease is called *catalepsy* which is called *jumud*. Sleeplessness is also because of the heat of the most important sentient but this heat may be either from a particular, bad complexion or from black bile.

Hippocrates said that when sleep causes pain in any disease, it is a sign of death. When sleep is useful, it is not a sign of death. Hippocrates said also that when sleep quiets the confusion of the mind, it is a good sign. Make your decision on sleep and wakefulness according to what we have considered of their conditions and according to what the ancients said about them.

Know that when sleep follows constipation of what should be evacuated or when waking follows evacuation of what was confined, then both are dependent on the difference in the states of the mixtures in the body. When one sleeps and he has unripe food and nutriment which is unabsorbed, it ripens it, improves absorption, heats, and moistens. If it finds the body clean and nutriment is needed, it strengthens the heat and drives moisture off. For this reason, it substitutes for the

small amount of substance, the coldness of the body. When [one sleeps] and [has eaten] moderate food, the normal heat is strengthened and is very useful. When during sleep there is much material, it is difficult to ripen it; then sleep is harmful. This is also so in the be-inning of abscesses in intermittent-nittent fevers. For this reason, physicians order no sleep at the beginning of an abscess.

Make use of sleep and waking according to these laws. Some ancients said that in sleep there is a similarity to death. This is because perception by the senses and discrimination by them stop; it is not possible to notice anything perceptible with them. For this reason, it is necessary for students of science and for those who seek the virtues that they not show zeal for sleep but zeal for seeking the realities of science and the virtues during their lives. Otherwise, their waking is sleeping and their life is death.

Statement on Psychic Events

It is necessary fox the physician also to know what psychic events are, how many there are, and from where each kind stems. If he does not know these, then he cannot preserve them in their natural condition and drive away the non-natural. It is said that you should know that man has a power by which he distinguishes and thinks, a power by which he is angry and enraged, and thirdly, a power by which he desires and lusts for pleasures. Man completes his actions and work by these three powers. The ancients called them the deteriorating powers; they recognized that characters and physical events are different for each of these three kinds of power of the soul.

Also he must know what the ancients mean with their word "event". Galen explained it; I shall relate what he said. Galen wrote that as long as the soul of man remains in its state, this is its state - as rest and quiet. If its state changes, then we can imagine that change as a movement which belongs to it. Some movement is very translational and some is otherwise. We call the movement which is very translational an action, and the movement which is [done] by something other than itself an event. An example of this is that if a man takes a thing and conveys it from its place to another place, then the movement of the hand is an action of that man and his hand, but the movement of the thing is an event of the thing. This is the relation of the action and event for movement in space.

As to the movement in change, as when the body of a man is heated by a fire or the warmth of the sun, this heat is an event to the body, and the heat [of the fire or sun] is the action of the things which heat. When the exalted God created the matter of man's body from these powers and their actions in whatever amount, it was then necessary that these quantities be natural for that particular man. If any of it is lacking or is excessive, then it is not natural. The natural one indicates

possession of a healthy power for a certain body; the unnatural indicates disease [of the power and body].

Because both of the animal souls [the second and third of the three powers] which are in man, especially the carnal one of the two, often harms the rational soul to attain pleasure in a persistent fashion, it is essential that the pleasure be of limited duration and of a moderate amount. When it exceeds this amount, it is harmful and causes illness. For this reason, the intelligent soul will stop this corruption by determining and limiting their periods to act and their amounts. The situation being so, he must know the action of each one of these souls, first separately without being affected by the other two, and then how it acts with their help. The action of the rational soul is [to determine] the existence of the correlation of things and their difference. An example of this is that when you hear two statements you notice their difference from another, you know the real one and the untrue one. As to its action with the help of another, it is that when the physical desires, it may some movements which are strengthened by the soul of anger. This is the [soul of the] animal since this soul has strength and courage. If these were not, it would be impossible to make a stand and attain any aim. Galen said that the essence of this soul, by which is meant the soul of anger, is the natural heat. Galen said, "The essence of this power by which man is strengthened in endurance and patience in work, in my opinion, is the natural heat since whenever the movement of the natural heat is stronger, the man is more hot; also coldness causes laziness and quietness, and thus heat causes willingness, movement, and power for action. Thus, youth and wine arouse movement and courage in man, and age and cold remedies cause laziness and weakness. The latter corrupt action and movement."

Moderation of the rational soul indicates that it is sagacious, has much understanding and a good memory, and has a longing for beautiful deeds.

When it is not in moderation, the opposite is true.

Galen said, "It is true that if the rational soul is silly, of little understanding and memory, and not desirous of meritorious actions, and both the animal souls are strong but not very obedient, then it [i.e. the rational soul] is not moderate. The rational soul needs to be prepared for perspicacity and for what is correct, and to be expert in attuning, to things and their differences. If the power of the soul of anger, an animal one, is of easy obedience, the carnal soul, a vegetable one, is weak. It is because the latter is not dependent on the rational soul." Plato described it and likened it to the predatory beast, saying, "Whoever needs to be straightened up has a weak vegetable soul for this should not hinder the rational soul from its actions. Since the powers of these souls from its actions. Since the powers of these souls are dependent on the complexity of the body, whatever happens to their actions and characters in the events which change them and remove them from

moderation and a satisfactory state, occurs only because of bodily change. This may be seen in what happens to one who is anxious, excited, or steals, drinks wine and other drinks." He, whose complexion is changed by any of these causes, the examples alone, changes in his character as a result and in the states of his souls which were previously healthy - when his soul was quiet without movement and without that event. Therefore, the physician must be trained to recognize the types of these complexions so as to know in certain people's complexions, if they wish preservation, what is good in one's character and the powers of his souls, and also the rectification of that which is out of line. It is also necessary to investigate further what has happened to the souls if it may be determined for the bodies. In some people who are sensitive to shame there may be a natural inclination which is not the state of the soul nor the complexion. One exception to the word "naturally" is that nature may be somewhat changed by education.

If you wish to examine what is in the [irrational] nature of man and the events of the souls and their characters, examine those who are the uneducated - the unimproved with virtues and sciences - as, for example, children. You will find these events and characters separately especially in those who do not have good habits and have no one to educate them. These do only what is in their nature.

Galen has described some of these characters in children. We must relate it in his words. The observation was made by one of intelligence and a good mind. Galen said, "There are children who do not lie at all and children who do not speak the truth at all. Some feel ashamed and others do not. Some are timid and some bold; some are voracious and some are not. Some are generous and help one another and some are avaricious and do not help one another. Some of them like cruelty and anger, some like justice. Some have mercy on any sympathy for children who are beaten and some advise to beat them and laugh about it. They differ from one another; the differences are in their characters.

"If this is so, then the physician must know the [irrational] natural character and the difference between it and the educated character so as to examine the condition of the souls and the events [associated with them]; the character is improved with good education and good habits do not cause him to err."

"Just as association with good and virtuous ones causes the soul to acquire the virtues and goodness of the [good] souls, so associating with evil ones and those with bad habits spoils the character of many people.

They lose their good temperament for the other [evil one]. For this reason, the physician must first take care of the soul by improving the soul of the patient and the events [associated with it]. He must care for the soul more than anything else

since the completion of man is in his soul; completion is dearer than that which is completed."

From these conclusions mentioned, one must know that purpose of the book, to encourage it, and to read what Galen and others have stated. Galen explained it in his book *On Natural Powers* and in his book *On the Opinions of Hippocrates*. Plato described [it] in his book *On the Characteristics of the Soul* and in his writing where he explained that the powers of the soul are dependent -on the complexion of the body, the actions of the soul and its characteristics, and other events relating to it. He also explained that each of the three powers which many ancients called the souls, i.e. that rational, animal, and vegetable souls, has a dwelling and a place special to its actions. The place of the rational soul is the brain; the place of the animal soul is the heart, and the place of the vegetable soul, which is carnal, is the liver. Undoubtedly, upon the health of these organs will depend the health of the souls in action. If they are sick, then [the souls will be] ill. Thus, it is necessary as previously mentioned, that the physician understand the states of these organs if he wants to recognize "physical events." The latter are mentioned as part of the natural matter previously numbered; they are the attributes of the air, motion, quietness, food, drink, discharge [of excesses] and congestion, sleeping, waking, physical events, the countries, occupations, and other matters mentioned earlier.

We mentioned the importance of these natural matters to maintain completely the health of the body and to maintain the health of organs and their parts. We began, by example, teaching the friends of the medical arts to show how the physician uses them for the maintenance of health. Our example for this was the brain since it is the most important of bodily organs. We set down in each chapter, what we mentioned of the statements on these natural matters, the summations and principles which encourage students. We recall for the learned ones what was said regarding, every meaning. We did not finish them all but discussed some of them, For this reason, we returned to the rest, as we did previously, for a statement on treatment of the brain which is the example here for all organs. Then we went on to mention treatment of one organ as distinguished from another by brief descriptions. God is the helper with His generosity.

Statement on Habits

Habit is very important in the preservation of health and in the treatment of the ill. This is because in mankind people are accustomed to things in [certain] measures and times. [Accordingly], their complexions develop to endure them and their bodies are healthy with them. When they [i.e. the habits] stop, then their health is affected, they become ill and their bodies are troubled. Also inhabitants of countries located in different situations are accustomed and grow used to different activities, different foods and drinks, different dwellings, and so on. For them,

these are natural and necessary for maintenance of the body rather than being unnatural. Through these habits, the body retains its health. Though some may become accustomed to the morals of others and some consent to the actions of others, there are some people for whom these actions and morals are not praiseworthy and satisfactory. An example of this is that some people are accustomed to the eating of barley bread and to eating curd and cheese.

Also you find that some people are accustomed to drinking much pure wine for their complexion is hot, their bodies accept it, and it suits their health. We also observe that some whose complexions are hot cannot drink that amount of wine and drugs. This is so because of habit. Also we find that some people since childhood have been in heavy occupations of a difficult type so that their bodies are weak and thin from going through that toil and weariness continually. You will also find that some who are stouter and stronger than these cannot endure these occupations since they are not accustomed to them. When one who is accustomed to food in a certain amount increases this quantity, then it is harmful. Thus, he who is accustomed to eating once [at a certain time], eats twice, then he is harmed to the point of illness.

Hippocrates said much concerning this. I shall give two of them [i.e. his statements]. One concerns the change of habits of people.

The second is general, and example of which is the case of different people who are accustomed to certain things which are very natural for them. It is not good to give these up.

As to the statement of Hippocrates in regard to the habits of people, he said, "It is obvious that unwise management in eating and drinking is harmful for the preservation of health. This is easily seen in the change from one kind of regimen to another. The change in one who was accustomed to eating once [a day] to a contrary [system] causes harm and weakness. If one eats at an unaccustomed time, it weakens him immediately, overburdens his body, and makes it lazy and atonic.

"Some may be exposed to the softness of nature. The cause of this is that one's stomach is exposed to the contrary of what is the natural state. This may be because his habit was to have an empty stomach and not be filled twice, and not to digest food twice. It may become accustomed to being filled twice, i.e. in the transition period from one habit of eating to another, if the bowels had been exhausted in the [double) eating period. For this, it is required that one sleep the entire night after the evening meal, if it is winter avoiding the cold, and if it is summer avoiding the heat. If it is not possible for one to sleep then he walks gently a great deal without stopping. After that he does not eat or eats only a little.

A little does not harm one; having the same effect is also a drink not mixed with water."

This statement of Hippocrates is sufficient to explain and serve as an example for what we mentioned of the change in the body with the change in habits for anyone. If you wish to listen to all that Hippocrates has related on the subject of habits and also what Galen has said in his commentary on it, then delve into Hippocrates' book and Galen's commentary on it.

As to a general example, Hippocrates said, "I shall give you a demonstration from the best of proofs as to the softness of one's body. This is that you find many Scythians, all of whom are in agriculture, who are heavy in their shoulder blades, in their upper arms, wrists, haunches, and in their chests. This is due only to the softness of their nature. They cannot string a bow or shoot javelins with their shoulders because of their softness and weakness. If they are steamed, the moistness in their joints dries and they become stronger than previously...

"They are not bound in clothes in childhood as is practiced in Egypt. This is not their usual custom since they ride the horse constantly. Those males who cannot ride the horse but sit on the cart rarely hasten in walking because of their heaviness; their females are stronger than they in breadth and thickness."

He also said, "I declare that because they ride the horse, they are affected by an illness called qadmata in Greek . This is because their feet are always suspended on the horse. When the illness is strongly evident, they become lame. They treat themselves in this manner. When their illness begins, they cut open two veins behind the ears bilaterally. When the blood is shed, sleep overpowers them because of weakness. So they complete the treatment; some of them recover and some do not."

I believe that the seminal fluid is corrupted by this treatment since whoever is bled in these two veins behind the ears becomes sterile. Most are bled only in those two veins.

Thus, I have related to you these statements once again and improved the way for you to recognize the changes due to habit in healthy and ill people. If you wish to listen to the words of Hippocrates on habits, and how the inhabitants of [various] countries acquire them depending on the change of air, water, and countries, read what he wrote in his book on countries, water, and air. By means of it, you will be in a position to judge many factors related to habits.

I finish [here) what I mentioned to you [hoping to] awaken and encourage [you].

Islamic Code Of Medical Professional Ethics

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Medicine was defined by Muslim physicians such as Al-Razi (841)-926 A.D.) and Ibn Sina (Avicenna, 980-1036 A.D.) as the art concerned with the preservation of good health, combating of disease, and restoration of health to the sick. For several centuries, the world has witnessed and benefited from the great advances made by Muslim physicians in the area of health sciences. These advances were not just based on technical skill or intellectual superiority. They were equally well founded on a clear understanding of the role of the Muslim physician as derived from Islamic teachings and philosophy. For thousands of years, ethics have been recognized as an essential requirement in the making of a physician. Although the ancient codes of ethics have to some extent stressed this requirement, they were still deficient and contained grave errors. Contemporary codes of ethics tend to be more liberal and less restrictive. The Qur'anic ethics, on the other hand, stand out as a perfect model for all mankind, all professions, and all time.

The medical ethical requirements proposed in this paper are primarily based on Qur'anic ethics. They include guidelines for the physician's behaviour and attitude, both at the personal and professional levels. The same standard of moral and ethical values should guide the physician in his private life and while conducting his professional business as well. A person who lacks moral values in private life cannot be trusted in professional activities, even with the highest professional and technical qualifications. It is impossible for a person to have two different ethical standards. Truthful is God the Almighty when He says:

"God has not made for any man two hearts in his body"

Qur'an: 33/4

The following verses from the Qur'an are most suited as guide for the personal characteristics of the physician. "Luqman admonished his son: 'My son', he said 'Serve no god besides God for idolatry is an abominable injustice. We have enjoined man to show kindness to his parents, for with much pain does his mother bear him, and he is not weaned before he is two years of age. We said: Give thanks to Me and to your parents: to Me shall all things return. But if they press you to serve besides me what you know nothing of, do not obey them, be kind to them in this world and follow the path of those who submit to Me; to Me you shall all return and I will declare to you all that you have done. 'My son, God will know about all things be they as small as a grain of mustard seed, be they hidden inside a rock or in heaven or on earth. God is wise and all-knowing. My son, establish regular prayer, enjoin what is just and forbid what is wrong; endure with fortitude

whoever befalls you, for this is firmness of purpose in the conduct of affairs. Do not treat men with scorn nor walk proudly on the earth; God does not love the arrogant boaster. Rather, let your gait be modest and your voice low; the harshest of voices is the braying of the ass'."

Qur'an: 31/13-19

God also says:

..... And those who restrain anger and forgive other men, verily God loves those who do good."

Qur'an: 3/134

God further states:

"It was the mercy of God that you have dealt with them gently and if you were severe and harsh-hearted they would have broken away from about you. Therefore forgive them, pray for their forgiveness, and consult them in the conduct of affairs; then, when you have decided to proceed, depend on God for support: verily God loves those who depend on Him".

Qur'an 3/159

Based on the above, the Muslim physician must believe in God and in Islamic teachings and practice, both in private and public life. He must be grateful to his parents, teachers, and elders. He must be humble, modest, kind, merciful, patient, and tolerant. He must follow the paths of the righteous and always seek God's support.

The Physician equipped with the above-listed virtues is capable of complying with the needed professional requirements. The first professional requirement is to acquire and maintain proper knowledge. God makes it clear in the Qur'an:

" ... Say: Are those equal, those who know and those who do not know? ... "

Qur'an: 39/9

God also states:

"..... Verily, those who fear God among His servants are those who have knowledge ..."

Qur'an: 35/28

Therefore the believer is encouraged to always seek knowledge.

"... Say: O my Lord. advance me in knowledge."

Qur'an: 20/114

The physician must also abide by the legal rules regulating his profession provided they do not violate Islamic teachings. The need to respect law and order is reflected in the following, verse:

"Oh you who believe: Obey God and obey the Apostle, and those charged with authority among you ..,"

Qur'an: 4/59

Recognizing God as the maker and the owner of both patient and physician, it is only logical that the care provided by the physician to his patient must be in accordance with God's guidelines.

A subject of great importance is the subject of life. Life is given by God and cannot be taken away except by Him or with His permission. God says in the Qur'an:

"It is He who created death and life, that He may try which of you is best in deed"

Qur'an: 67/2

He also says:

".....Nor can they control death nor life nor resurrection."

Qur'an: 25/3

God further states:

" ... Whoever kills a human being not in lieu of another human being nor because of mischief on earth, it is as if he has killed all mankind; and whoever saves the life of a human being, it is as if he has saved the life of all mankind ..."

Qur'an: 5/32

The physician therefore has no right to terminate any human life under his care. This also applies to the unborn baby since clear evidence indicates that human life starts at the time of conception. Consequently, the physician has no right to terminate the life of the unborn baby unless it constitutes a definite threat to the mother's life.

The physician must realize that God is watching and monitoring every thought and deed. This was clearly indicated in the verses quoted earlier from Chapter 31 of the Qur'an. The same verses also indicate that the parents' demands are not to be obeyed if they are in violation of God's orders, in spite of the fact that parents are considered to be the most important persons to their children after God. Following the same principles, the physician has no right to follow popular demand or his patient's wishes if they are in violation of God's orders.

Based on sound logic and clear Islamic teachings, the physician has no right to recommend or administer any harmful material to his patients. The most concise yet comprehensive guide in this matter is found in the following verse of the Qur'an:

"... and He makes for them good things lawful, and bad things forbidden ..."

Qur'an: 7/157

This implies that anything forbidden by God must be bad or harmful; anything proven to be bad or harmful must be forbidden.

The humanitarian aspect of the medical profession must never be neglected. The physician must render the needed help regardless of the financial ability or ethnic origin of the patient. A beautiful hint is found in the following Qur'anic verses:

"And they feed, for the love of God, the indigent, the orphan, and the captive, (saying) 'We feed you for the sake of God alone: no reward do we desire from you, nor thanks'."

Qur'an: 76/8

When entrusted with the care of a patient, the physician must offer the needed advice With consideration for both the patient's body and mind, always remembering his basic obligation to enjoin what is just and forbid what is wrong.

The physician must protect the patient's confidentiality, reflecting God's description of the believers:

"Those who faithfully keep their trusts and their covenants."

Qur'an: 23/8

The physician must adopt an appropriate manner of communication and be reminded of the ethics of speech referred to in the Qur'anic verses quoted earlier in this paper. God also describes the good believers in the Qur'an and says:

"For they have been guided to the purest of speeches ..."

Qur'an: 22/24

Situations requiring, the physician to examine patients of the opposite sex are always a test of his moral character and his strength. A basic instruction is found in the following Qur'anic verses:

"Say to the believing men that they should lower their gaze and guard their modesty; that will make for greater purity for them, for God is well acquainted with all that they do. And say to the believing women that they should lower their gaze and guard their modesty .. "

Qur'an: 24/30-31

God further says:

"...God does wish to lighten your burden, for man was created weak."

Qur'an: 4/28

It is therefore advisable that the physician examine patients of the opposite sex in the presence of a third person whenever feasible. This will be an added protection for the physician and the patient.

The physician must not criticize another physician in the presence of patients or health personnel, remembering the Qur'anic advice.

"O you who believe, let not some men among you make fun of others; it may be that they are better than them; nor let some women make fun of others; it may be that they are better than them; nor defame, nor be sarcastic to each other, nor call each other by offensive nicknames ..."

Qur'an: 49/11

God further says:

"God does not love that evil be voiced in public speech, except where the person has suffered injustice ..."

Qur'an: 4/148

The physician must refuse payment for the treatment of another physician or his immediate family. There is no specific instruction regarding this particular matter in the Qur'an or Islamic tradition. However, reference is made to another situation which may be used in analogy. God says regarding Zakat money:

"Alms are for the poor, the needy, and those employed to administer the funds."

Qur'an: 9/60

Here is a situation where the persons providing a certain service are entitled to the use of the same service at the time of need. Applying the same principle, the physician who provides the health services to others is entitled to the use of the same service at the time of need.

Last, but not least, the physician must always strive to use wisdom in all his decisions and the reward will be great. Truthful is God the Almighty when He says:

" ... and he to whom wisdom is granted, is granted a great deal of good indeed ... "

Qur'an: 2/269

In closing reference is made to the Muslim Physician adopted by the Islamic Medical Association in 1977, and which reflects the spirit and philosophy of the Islamic Code of Medical Professional Ethics proposed in this paper.

In summary, the Muslim physician must believe in God and in Islamic teachings and practice in private and public life; be grateful to his parents, teachers, and elders, be humble, modest, kind, merciful, patient, and tolerant; follow the path of the righteous; and always seek God's support. The Muslim physician must stay abreast of current medical knowledge, continuously improve his skills seek help whenever needed, and comply with legal requirements governing his profession; realize that God is the maker and owner of his patient's body and mind and treat him within the framework of God's teachings; realize that life was given to man by God, that human life starts at the time of conception, and that human life cannot be taken away except by God or with His permission; realize that God is watching and monitoring every thought and deed;

follow God's guidelines as his only criteria, even if they differ with popular demand or the patient's wishes; not recommend nor administer any harmful material; render needed help regardless of financial ability or ethnic origin of the patient; offer needed advice with consideration for both the patient's body and mind;

protect the patient's confidentiality;

adopt an appropriate manner of communication;

examine a patient of the opposite sex in the presence of a third person whenever feasible; not criticize another physician in the presence of patients or health personnel, refuse payment for treatment of another physician or his immediate family ; and strive to use wisdom in all his decisions.

Natural Therapeutics Of Medicine In Islam

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1.INTRODUCTION

Medicine is both an art and a science. It encompasses prophylaxis or prevention, diagnosis, and finally treatment (both curative and palliative).

Preventive medicine is especially important and has been neglected as a major factor in health care. In fact, it is well documented but little known that most of the health gains (expressed as life expectancy, morbidity, and mortality) attributed to modern medicine are principally due to advancements in diet and sanitation, rather than to the more complex technologies. Preventive medicine as a natural measure of therapeutic stresses the involvement of the individual in his own health care. This is accomplished by educating the patient as to proper nutrition, hygiene and physical activities. Equally important are the psychologic and spiritual factors as these can greatly influence the disease.

Curative medicine is as important as the preventive one. In the process of healing, natural approaches have been used. The natural art of therapeutics is not a new approach in the field of medicine, rather it is as old as people have been the inhabitants of this planet.

Man has done his best in protecting himself from diseases and in preventing himself from sickness.

Preventive and curative approaches have been used by man to keep himself healthy, happy and strong. Some of these so-called "primitive" measures have been shown to be scientifically sound and have thus been added to the "modern" therapeutic regimens. Some approaches were considered to be natural (e.g. herbs, natural foods, etc.) while others were oriented towards the use of drugs and synthetic remedies.

Anyone studying or practicing medicine realizes that he is at best providing therapy to impede the disease process so that the body can take over and effect a cure with the mercy of Allah. In an Islamic sense, the health care practitioner must be viewed as an agent through which Allah acts. He must not delude himself into a position of exaggerated self-importance.

In this paper the authors wish to approach the subject of natural therapeutics in medicine vis-a-vis the Islamic approach of good and sound health. The paper will also include some aspects of the following: types of natural therapeutics, diet as an approach to natural healing and colleges that deal with natural therapeutics. The paper does include some recommendations related to natural approaches in medicine for the Muslim world.

Such a paper is helpful to all those concerned about sound health of the individuals including those, groups dealing with the allopathic and the natural medicine. This research is of great help to all those colleges teaching medicine and especially those colleges teaching natural therapeutics. It is a source of help to the physicians, patients, hospitals, grocery stores, health food stores and the like. This paper is of great assistance to the Third World, i.e. the emerging nations whose technological resources are meager, and whose health delivery approaches are more or less still oriented towards the natural therapeutic methods.

It is the hope of the authors that an eclectic approach be adopted by the Third World, i.e. to pick up the best of every discipline. It is hoped that the Third World nations will establish an **INSTITUTE OF HEALTH CARE DELIVERY** which will catalogue the entire spectrum of medical approaches including the "natural" methods. If the Third World nations establish such a health institute based on the natural approaches, they will undoubtedly help save themselves money, time, effort and the more expensive technology. This will lead to better healing and finally faster and better results.

II. ISLAMIC VIEWS ON THERAPEUTICS

Islam is a way of life to live, a system to be followed, a code of ethics and a constitution to be applied in the daily life of every person. As such, Islam has many constructive ideas to offer in the fields of health and medicine. In order to

find out what Islam teaches, one has to read the Qur'an and the Hadith. Allah says in the Qur'an in Surah the poets (Ash-Shu'ara') about healing from diseases:

"..... and when I sicken, then He (Allah) heals me (26.80)."

As far as the Prophet is concerned, related to the healing of diseases, it was reported by Jabir bin AbduUah that Prophet Muhammad (pbuh) said:

"For any disease there is a cure, and when the cure matches the disease, the person recovers by the will of Allah"

The prophet also said about the healing of diseases:

It was reported by Abu Hurairah that the Prophet (pbuh) said:

"Allah never inflicts a disease unless he makes a cure for it. ..."

As far as the treatment of diseases it was reported by Usamah bin Shareek saying:

"I was with the Prophet (pbuh) and Arabs came to him asking: 'O messenger of Allah: Do we take medicine for treatment?' He said: 'Yes, Oh you the servants of Allah, take medicine, as Allah Almighty has not created a disease without having created a cure for it except one disease.' They asked, 'What it is?' He said: 'Old age.'" In another saying: "Allah never inflicts a disease without providing a cure; only those who were aware of it knew it, whereas those who were not aware, were ignorant of it."

As far as the preventive approach in health, Prophet Muhammad (pbuh) said:

"An ounce of prevention is better than a ton of treatment."

Hence, healing medicine is an art and a science. It is done through prevention (prophylaxis), diagnosis, treatment, and cure. In so doing, the individual may prolong his happy life and reduce the degree and the rate of occurrence of illness. Islam encompasses all these approaches so that a person may stay healthy, happy and strong.

III. LIMITATIONS OF DRUG THERAPY

Drug therapy has become the concern of many people 2,22 . The reasons are obvious, among which are the following:

A. Most drug therapy must be closely monitored and carefully dosed. This dose may have to be altered frequently due to the nature of the particular disease process or other concomitant ones the patient may have.

B. Even so, toxic effects may occur. Often one has to weigh the advantages of drug use against the side effects. The choice is not always clear.

C. Therapeutic drugs are usually much more expensive than preventative measures.

D. The choice whether or not to use drug prescriptions depends greatly on the disease process. Acute, life-threatening diseases usually require such intervention. However, for chronic, non-curable diseases (such as arthritis) the rationale for drug prescriptions is much more subjective. The psychologic makeup of the patient is likely to play a large role in the decision to use a drug.

IV. TYPES OF NATURAL THERAPEUTICS

Among the natural healing treatments are the following:

A.Preventive medicine

B.Dietetic approach

C.Folk medicine

D.Hakim's medicine

E.Chiropractic

F.Naturopathy

G.Naprapathy

H.Homeopathy

In dealing with this subject, Islam's approach to healing is an eclectic one i.e., one is to use the best of every discipline so that the health of the individual will be preserved.

V.DIET AND NATURAL HEALING

As far as the diet is concerned, Islam has laid down the foundation in the Qur'an and the Sunnah for the best approach in keeping good health. This approach is mainly through selection of the best, preventive methods, and to be aware of any harmful drugs. The following is a summary of the principal ideas of Islam relating to diet and health:

A. Allah asked everyone to eat what is lawful (Halaal). The Qur'an states in Surah Al-Baqarah (The Cow):

"Ye people: eat of what is on earth, lawful and wholesome" (2:168). Read also (5:91).

B. People are to ENJOY their food as it affects their personality character. Enjoying the eating of food is a matter of worship as any other aspect of life in Islam.

C. Muslims are to SELECT the best quality of food. In this regard Allah says in the Qur'an in Surah Al-Kahf (The Cave):

"Now send ye then one of you with this money of yours to the town: let him find out which is the best food (to be had) ... " (18:19).

D. Muslims are to EAT the best food after selecting the best. Allah says in the Qur'an in Surah Al-A'raf (The Heights) "Eat of the good foods We have provided for you." (7:160).

E. The best approach in the process of prevention is the concept of MODERATION in eating habits. The Qur'an states emphatically this idea in Surah Al-A'raf (The Heights).

"Eat and drink, but waste not by excess, for God loves not the prodigals.' (7:31).

F. Regarding the idea of moderation through diet, it is mentioned in Surah Taha whereby Allah says:

Eat of the good things We have provided for your, sustenance, but commit no excess therein." (20:8 1)

G. Another approach that Islam demands from its followers is the idea of TOTAL ABSTINENCE of food and drinks for one whole month from dawn to sunset. The benefits of fasting have been tested and documented especially in biochemistry, physiology, clinical therapeutics, clinical nutrition, etc. It is beyond doubt that fasting helps the individual to get rid of most of the toxins in his body. At the same time fasting increases productivity and by its frugality curbs inflation. In this regard, it would be a good idea to point out here what Islam says in this regard. Allah says in the Qur'an in Surah Al-Baqarah (The Cow):

"O ye who believe! Fasting is prescribed for you as it was prescribed for those before you, that ye may learn self-restraint" i.e. to have Taqwa (2:183)

The Prophet Muhammad (pbuh) said:

"Fast (the month of Ramadan) so that to heal your bodies from diseases."

The word Taqwa has been explained in many aspects some of which are related to health and disease, food and dietetics, physical fitness, etc. Finally, it has been

explained to mean: self-training, self-restraint, self-control, self-discipline, self-education and self-evaluation.

It should also be mentioned here that the personality, behavior, and performance of the individual is affected by the food eaten and, therefore, one has to select the best type of food for his good health. There is thus a linkage between physical and mental health. A proverb related to this subject has been narrated saying:

"A sound mind is a sound body and vice versa".

It is difficult to reason well while one is physically sick. Similarly, mental illness may adversely affect various body functions (e.g. ulcer).

This dual, complementary approach to mental and physical health is exemplified by Islamic views towards the nursing of infants.

The advantages of breast feeding are numerous since the mother transfers many nutrients, hormones, and even antibodies through sucking, The particular amino acid composition of human milk may accelerate and even increase cognitive development in the infant". In addition, one must not forget how this close physical contact strengthens the emotional relationship between the mother and child", ". In this regard, Allah says in the Qur'an about breast feeding.

"The mothers shall give suck to their offspring for two whole years if the father desires to complete the term. But he shall bear the cost of their food and clothing on equitable terms. No soul shall have a burden laid on it greater than it can bear. No mother shall be treated unfairly on account of her child, nor father on account of his child. An heir shall be chargeable in the same way. If they both decide on weaning, by mutual consent, and after due consultation, there is no blame on them. If ye decide on a foster mother for your offspring, there is no blame on you, provided ye pay (the mother) what ye offered, on equitable terms. But fear God and know that God sees well what ye do." (2:233).

VI. COLLEGES FOR NATURAL THERAPEUTICS

A. Definitions

1. Allopathy "Substitutive therapy" auxotherapy; a therapeutic system in which disease is treated by producing a morbid reaction of another kind or in another part - a method of substitution."

2. Naturopathy " A system of therapeutics in which neither surgical nor medical agents are used, dependence being placed only on natural forces."

3. Naprapathy a. "A system of therapeutic manipulation based on the theory that morbid symptoms are dependent upon strained or contracted ligaments in the spine, thorax, or pelvis."

b. From Naprapathic Philosophy Notes, Theory and Principles" A system of specific manipulative therapeutics based on the theory of interference to nerves, blood vessels and lymph channels, by pathologic soft tissue such as connective tissue or muscles with consequent secondary pathology or dysfunction resulting there from."

4. Chiropractic "Aphilosophic system of mechanical therapeutics that attribute disease to vertebral subluxations; it treats disease with manipulation of the vertebra in order to relieve pressure on the nerves at the intervertebral formation so that nerve force may flow freely from the brain to the rest of the body."

5. Homeopathy "A system of therapy developed by Samuel Hahnemann on the theory that large doses of certain drugs given to healthy persons will produce certain conditions which, when occurring spontaneously as symptoms of a disease, are relieved by the same drug in small doses."

6. Osteopathy "A school of medicine based upon the idea that the normal body when in "correct adjustment" is a vital machine capable of making its own remedies against infections and other toxic conditions. Practitioners use the diagnostic and therapeutic measures of ordinary medicine in addition to manipulative measures."

7. Folk Medicine "Treatment of ailments in the home by remedies and simple measures based upon experience and knowledge handed on from generation to generation ."

8. Acupuncture "An ancient medical system of therapy using puncture by fine needles. Most recently, this has been used for anesthesia."

9. Preventive Medicine "The branch of medical science that treats by the prevention of disease."

10. Curative Medicine A special type of medicine which is designed to the restoration of health - it means; "to heal, to make well, and is a special method or course of treatment."

11. Podiatry Medical treatment, the specialty that includes the diagnosis and/or medical, surgical, mechanical, physical, and adjunctive treatment of the disease, injuries and defects of the human foot.

12. Hakim Hakim is an Arabic word. Literally, it means: a wise and a knowledgeable person.

In practice it is meant a physician without a formal education or a degree. His knowledge is through personal tutoring as well as through inheritance.

The "medicine" that a Hakim practices is composed of a combination of herbal medicine, homoeopathy, naturopathy, chiropractic and others.

This type of "medicine" is still practiced in most of the "Developing Nations".

B. Types of Colleges There are many colleges and institutes in North America dealing with natural healing. Among which are the following:

1. Naturopathic Medicine College
2. Chiropractic Colleges (eighteen colleges in North America)
3. Naprapathy College
4. Homeopathy College

C. General Information The General Information including the course of study for these colleges of natural therapeutics are found at the end of this article in the Appendices.

VII. RECOMMENDATIONS OF NATURAL FOODS

A. Natural Foods There are four different types of vitamins sold as "natural". These are:

1. An extract of food concentrated so that the vitamin is in higher quantity than the original food - examples: Heart muscle as a source of B vitamins, liver and yeast as sources of B vitamins, rose hips and edible organ meats as sources of vitamin C.
2. Highly concentrated crystals or purified vitamins altered somewhat, but extracted from foods - examples; Vitamin E acetate from vegetable oils, from B-12 as cobalamin concentrate.
3. Synthetic vitamins for which the starting materials are natural material - examples; Ascorbic acid from corn sugar, Vitamin A from citral, derived from lemon grass.
4. If a natural base such as yeast is included, the addition of synthetic vitamins may not prevent the product from being called "natural". Many food supplements include ground up deposits of rock from the desert as sources of minerals and these are called "natural" minerals because they come from natural rock deposits.

B. Reading Labels When reading labels, one has to be careful for the following:

I. Look for Dietary Balance

- a. Are the vitamins present in proportion to their individual recommended daily intakes?
- b. Do B-complex formulas include all the B-complex vitamins, and are they adjusted to recommended amounts?
- c. Are ingredients listed in amounts of active components?
- d. Are insignificant amounts of vitamins included for advertising purposes?
- e. How much "window dressing" is used?
- f. Are ingredients adjusted to "cost" rather than requirements?

2. Know your preferences for sources

3. Look for expiration dates

4. How well are they assimilated?

5. Know what you mean by "natural" "organic."

- a. All vitamins are organic molecules and fall into this chemical classification.

VIII. RECOMMENDATIONS TO THE MUSLIM WORLD

It is recommended that the Muslim World look into the concept, philosophy and benefits of the natural and practical implications. It is also recommended that the ministries of public health in cooperation with the ministries of higher education should establish colleges of natural healing arts.

Such colleges should include all types of natural healing including the old Arab Hakim, folk medicine, homeopathy, naturopathy, chiropractic, naprapathy and the like.

It is recommended that they take into consideration an eclectic approach as well as the needs of the Muslims everywhere urban and rural areas. Since most of the people in the Muslim World are inclined to a natural approach of healing, such a project could be very successful, very beneficial, less expensive and much safer to the lives of the individuals.

IX. OATH OF A MUSLIM PHYSICIAN

For the first time in the history of America, a professional group such as the Islamic Medical Association of the USA and Canada (IMA) adopted a professional oath in 1977. This oath is known as "The Oath of a Muslim Physician." This oath has been adopted in English and Arabic languages and is used yearly by the members of the INM in their annual conventions. The following is the oath in the English language.

"Praise be to Allah (God), the Teacher, the Unique, Majesty of the heavens, the exalted, the glorious, Glory be to Him, the Eternal Being who created the Universe and all the creatures within, and the only Being who containeth the infinity and the eternity. We serve no other God besides thee and regard idolatry as an abominable injustice.

Give us the strength to be truthful, honest, modest, merciful and objective. Give us the fortitude to admit our mistakes, to amend our ways and to forgive the wrongs of others.

Give us the wisdom to comfort and counsel all towards peace and harmony.

Give us the understanding that ours is a profession sacred that deals with your most precious gifts of life and intellect.

Therefore, make us worthy of this favored station with honor, dignity and piety so that we may devote our lives in serving mankind, poor or rich, wise or illiterate, Muslim or non-Muslim, black or white, with patience and tolerance with virtue and reverence, with knowledge and vigilance, with thy love in our hearts and compassion for thy servants, thy most precious creation.

Hereby we take this oath in thy name, the Creator of all the Heavens and the earth and follow thy counsel as thou have revealed to Prophet Muhammad (pbuh).

"Whoever killeth a human being, not in lieu of another human being nor because of mischief on earth, as if he hath killed all mankind. And if he saveth a human life, he hath saved the life of all mankind". (Qur'an 5:32)

X. SUMMARY

The subject of "Natural Therapeutics" has become important in our daily life. This article has dealt with this subject vis-a-vis the Islamic approach of good and sound health. The paper included types of therapeutics, limitations of drug therapy, colleges dealing with natural therapeutics, recommendations on natural foods, recommendations of the Muslim World and an "Oath of a Muslim Physician",

One of the important points brought out in this paper is the eclectic approach

which should be adopted through the establishment of an institute of health delivery.

XI. APPENDICES

The following include colleges for natural therapeutics. Some major information about them as well as the courses offered by those colleges. These appendices are important in evaluating the effectiveness of these colleges in training practitioners to handle patients.

APPENDIX ONE: CHIROPRACTIC MEDICINE

Chiropractic medicine gives particular attention to the relationship of the structural and neurological aspects of the body in health and disease. Its therapeutics utilize adjustive and manipulative procedures, physiological therapeutics, dietary correction and supplementation, kinesiology and rehabilitative procedures, and other drug less procedures to aid in restoration of anatomical relationships and physiologic capabilities.

The study of chiropractic medicine requires four and a half years and includes study of both the basic sciences (anatomy, embryology, chemistry, biochemistry, microbiology, psychology, and pathology) as well as clinical medicine, chiropractic manipulation, radiology, nutrition, and acupuncture and direct, supervised clinical experience.

APPENDIX TWO: NAUROPATHIC MEDICINE

Naturopathic medicine is a distinct system of healing - a philosophy, science, art, and practice which seeks to promote health through education and the rational use of natural agents.

As a separate profession, naturopathic medicine incorporates all natural methods of healing, including such things as botanical medicines, homeopathy, nutritional therapy, medical electricity, psychology, and manipulative therapies.

The human body possesses tremendous power to heal itself through mechanisms of homeostasis - restoring balance in structure and function and adapting to environmental changes. The naturopathic physician uses those therapeutic substances and techniques which act in harmony with the body's self healing processes and avoids treatments which are designed to counteract or supervene them. Ideally, naturopathic methods are applied as a means of stimulating and enhancing this "healing power of nature".

The study of naturopathy requires four years. The first two years emphasize basic medical sciences and include courses in biochemistry, microbiology, pathology, anatomy (gross and microscopic), physiology, immunology, public health, first aid and emergency medicine, and physical diagnosis. The last two years concentrate on clinical practice and include courses in clinical diagnosis, radiology, pharmacology, psychology, physio-therapy, obstetrics and gynecology, pediatrics, nutrition, biomechanics, manipulative therapy, acupuncture, orthopedics, urology, and dermatology. In addition, clinical externships give direct experience in the practice of this branch of medicine.

APPENDIX THREE: NAPRAPATHY

Naprapathy is a system of manually applied movements, both passive and active, designed to bring motion, with consequent release of tension, into abnormally tensed and rigid ligaments, muscles and articulations of the human body. These tissues and structures are normally moveable, flexible and resilient.

Naprapathy contends that a favorable internal environment is essential for growth, development and maintenance of all normal health. Naprapathy's procedures assist the body to maintain this favorable internal environment by releasing points of tension and by the use of rational dietary and hygienic measures.

The study of naprapathy requires three years after two years of undergraduate study. Course work includes anatomy, genetics, chemistry and biochemistry, microbiology, nutrition, physiology, pathology, kinesiology, and botanical studies, and naprapathic physiology and practice. The third year concentrates mainly on clinical practice.

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Application Of Tibb-i-Nabi To Modern Medical Practice

Hakim Moinuddin Chishti (Robert Thomson, N.D.)

Bismallah Ir-Rahman, Ir-Rahim

Medical practice in the United States is facing its most serious challenge in the past 100 years. While no medical system can be expected to have a monopoly on cures, to day allopathic medicine is facing an ever- growing number of unorthodox assaults, on top of the malpractice increase. And, these charges are being lodged despite the outstanding advances and cures which can be attributed to scientific medicine.

The chief complaints against the orthodox system are that it is often harmful, often ineffective, and often too expensive. Modern hospital medicine is vulnerable on all three counts. It uses techniques and drugs that are productive of many adverse reactions, cost too much and frequently do not cure. Indeed, Dr. Lewis Thomas, President of the Sloan-Kettering Memorial Cancer Center in New York, confessed in a recent interview, that all internists know that ninety percent of all illnesses get better by themselves.

In the late 1979's in modern and scientific America (and much of the rest of the developed world), there need be no concern for the plagues and diseases which leveled civilizations in the past: smallpox, poliomyelitis, cholera, measles, and especially systemic bacterial infection are simply not a threat to life. In one sense, then, men and women and children are much healthier than they have ever been in human life; yet, they are much more apprehensive and disappointed about their lives than ever before. The reports of unnecessary surgeries, suicides, drug abuse, sexual perversion, alcoholism and a wide array of "nervous" disorders, affect the entire population. What is more the causes of death for most people cancer, heart disease contain a clue as to the true source and cause of the problem, the gradual withering away and withdrawal of the life Force itself. Still, women abort their children, everyone seems quite willing to ingest substances known to shorten their life span, and engage in life habits and patterns which demonstrably build disease.

Coincident with this growing lack of true health, there is an assault upon the very integrity of the physician, and the substantial proportion of malpractice suits are rooted in the common misunderstandings about medicine and responsibility for health. Patients feel that the doctor has all the answers and the patient is but a passive participant in the relationship. Such an expectation is beyond the ability of medical science to satisfy. Physicians themselves have difficulty overcoming the psychological and financial temptations involved in assuming such a role.

Thus, they too fall into the traps inherent in relationships based upon unjustified dependency.

It is at this critical juncture, when Man seems to be losing the physical and psychological underpinnings necessary for rational life-that we must turn to our Gracious and Merciful Creator, Allah t'ala, for the infallible remedy and vital prescriptions for our time.

Insha allah, in this presentation, I would like to suggest some conceptual framework within which we can begin to utilize the most Complete and thorough Medical Tradition, that of the Holy Prophet Muhammad (AS), and arrive at a renewed view of man as healer and man as patient.

Allah t'ala tells us in Surah An'am, verse 17:

"If God touch thee with affliction, none can remove it but He;" (VIII 7)

And, again, in Surah Yunus, verse 57, we learn:

"O mankind! there hath come to you a direction from your Lord and a healing for the (diseases) in your hearts, -and for those who believe, a Guidance And a Mercy". (XI57)

And, once again, in Surah Bani Isra'il, this idea is even made more clear: "We send down (stage by stage) in the Qur'an that which is a healing and a mercy to those who believe... "(XVII / 82)

Similar revelations are contained in other verses in Qur'an, notably in Surah XXVI, verses 80 and 81; XLI, verse 44; Surah XVI, verses 53 and 69. These are the specific references to guide mankind to the revelation of the latest and complete code for the fit conduct of human life on earth, in order to maintain or regain health.

As Muslim physicians, there is a very special obligation upon us, to become models of human life lived in harmony with these commands of our Creator. To accomplish this, let us look for a moment at the very excellent and perfect example left to us by the Prophet Muhammad (AS), and conveyed to us in the Sahih Traditions of Muslim and Bokhaili. The first Appendix shows a preliminary listing of those topics having a direct bearing and relationship upon health, which is given with a specific instructions from our beloved Prophet (AS),

It is clear that far from being a general and vague guide to health, the Qur'an and Hadith of Islam, on the contrary, gives us most specific ordering of matters of

healthy living, for all manner of public and private health, even to the contamination of food by pets!

As Muslims we are well aware of a fact kept hidden from the general public in the West, and this is that the most complete system of "natural medicine" ever devised has been extant for 1,400 years, presented in the fullest and miraculous order of Divine Commands from Allah, and lived out in example by the most profound human being in history. And it is by this example that the present health crisis may be met. For this is, above all, a crisis of faith, of faith in the physician, of faith in the human mechanism as healing process, of faith in the patient, but above all, a cynical loss of faith in God Himself. We have learned from the Hadith of the Prophet (AS), "We did not send down any disease, unless we have sent down the remedy with it." And so, as the disease is "loss of faith" in the ultimate sense, the cure is therefore "iman."

This does not allow for any incurable disease, including the so-called "terminal" cancers, for, by giving up hope and informing a patient of such "hopelessness" of their faith and hope. Maulana Jalaluddin Rumi has said in *Fihi Ma Fihi*, that "faith is superior to prayer", even, for faith is continuous, cannot be omitted for any excuse, and has its own benefit with or without prayer.

The main tenets of *Tibb-i-Nabi*, or "medicine of the Prophet," of course Proceed from this iman, and are contained first of all in the usual religious in-junctions known as the "Five Pillars of Islarn". We wish to review them briefly.

1. Shahadat. "Lailahailallah;Mohammadd-ur-rasoulallah." Imam Al-Ghazzali has Said, "Illness is one of the forms of experience by which man arrives at a knowledge of God; as He says, 'Sicknesses themselves are My servants, and are attached to My chosen.' "If one is unable to have faith in the soul, in Allah, and in the seen and unseen worlds, then how could one expect to have any wellness in the fight with other "unseen" things, like microbes and viruses. It is in the first place precisely because people have turned away from the nurturing and feeding of the soul, that disease has taken hold and overpowered that pitiable and shruken soul.

2. Salat. The five daily obligatory prayers are the most magnificent form of food for our soul, as well as being a practical set of physical exercises which, if conducted regularly will banish so many of the common ailments such as lower back pain, arthritis, cervical misalignments, headache and other complaints-or at least greatly reduce their severity if they occur at all.

The recitation of prayers in Arabic language conveys an added benefit which can be described under the Science of Breath (*nafas*), which holds that the heart is the seat of manufacture of the breath, and the storehouse for the divine potentialities

(sifat). These potentialities are conveyed about the body by various humours (akhlāt), which must be kept in harmony.

The transmission of sound is important for maintaining or building health. After all, the Command for the Qur'an was, and is, "Recite!" For example, the long sound of aleph ('al' as in father) is known to vibrate in the heart plexus and stimulate the feelings of power, concentration, majesty and so forth.

The sound of "ya" or long 'c' in English (as in seen), travels up the nasal septum and stimulates the root of the pineal body, acknowledged by most Western biologists to be a vestigial remnant of a third eye, or light-sensitive organ. Even though its specific function is not known to science, a quick review of words and phrases in salat will show the place Allah t'ala has found for stimulation of this body throughout the day.

3. Ramadhan. "Fasting (sivawm) is the best medicine", is the claim of the latest natural food faddists, but this statement too comes from the comprehensive Tradition on Medicine of the Holy Prophet Muhammad (AS). The burden upon the digestive organs, stressed further by addition of so many chemical additives to food, stress toxins and consistent dietary indiscretion, places a very great labor upon the detoxifying systems for the body—primarily upon the liver—which may ultimately be seen to be the leading cause of degenerative disease.

4. Zakat. Every physician knows that if the subject of disease is looked into deeply enough, nearly all diseases can be said to originate in the mind. The psychological fears associated with not knowing if, or how, one is going to provide for one's dear ones, often leads to excessive drinking, depression, and suicide, among other things. The humane system of community preservation provided for by zakat, is a necessary component of any truly humane society, and therefore is incumbent upon all Muslims. In addition, there is the added benefit of increasing one's humility and preventing one from becoming selfish and greedy, characteristics so prevalent in modern society, which harm others by withholding something from the less fortunate peoples' needs and affections.

5. Hajj. The pilgrimage for every physically and financially able Muslim usually is performed by adults who have met their responsibilities in life, and have in one sense "earned" this final religious journey. It gives the mature in life a hope for the future, a very great and exalted final Purpose and direction, a final re-ordering and re-affirmation of iman as one approaches the transition from human life on earth. While it is surely the best provision against senility, even the young who are fortunate to perform the Hajj, the benefits are perhaps still greater.

Any interested person can go much deeply into these topics, and they are repeated here only to suggest a mere glimpse of the superior benefits to be gained from following the injunctions of the way of life known as Islam. Advanced study of Islam yields rich source material in any field of human thought and behavior.

What needs to be stressed here, is that even if all of these acts were not called by the name "Islam", they would, if prescribed and enforced as a mode of treatment, produce profound effects entirely beneficial. In my own work, I often suggest to non-Muslims who come for health guidance, the movements of salat, cleanings of wazu, and certain elements of fasting, under the rubric of "health building". The results under such a regimen, which is nothing more than suggestion Islam, have been truly astonishing, with recovery of many serious chronic and degenerative diseases recorded.

The Appendix I gives the list from Hadith on health-related topics, but from a broader perspective we can gain even more, to include some of the giants of Islamic medicine as it has developed from the example of the Prophet Muhammad, when applied by the advanced Muslim minds to fields of scientific endeavor during various periods of human history.

While there are many physicians who command our utmost respect there is one man who stands out above all others, who is responsible for nearly all of today's pharmacology methodology, much of the nature therapeutics, and whose medical theories have maintained their authority through seven centuries of medical practice.

Abu Ali Al-Husayn ibn Sina-known in the West as Avicenna-was one of the illustrious physicians in recorded history. He was born in 980 A.D. near Bokbara in present-day Afghanistan. Though that was the center of learning of the time, he had exhausted all teachers of the day by the time he reached his teens, and in fact explained logic to his master. He received no formal education in the sciences or medicine, but had physicians working under his direction at the age of fourteen.

He is perhaps less known for his medical genius than for his philosophy. His book Kitab-ul Ansaaf (The Book of Impartial Judgement), in which, at the age of twenty-one, he answered 28,000 questions on theology and metaphysics, remains a significant and undisputed contribution to human thought.

Avicenna was extremely active in all realms of life, serving several times as a court minister and on more than one occasion was caught up in intrigues which led him to flight or to prison. He wrote whenever he could- in prison, on horseback, or in the wee hours of the night after working all day. He wrote in verse to instruct his pupils, and produced important works on Sufi doctrines and behavior. He

never had a library and wrote primarily from memory. He is (credited by scholars with an astounding outpouring of 276 works, touching on all aspects of human endeavor—medicine, natural history, physics, chemistry, astronomy, mathematics, music, economics and oral and religious questions. Among them is the greatest classic on medicine, the eighteen-volume Qanun-ul-Tebb (Canon of Medicine), which covers and orders all medical knowledge in the world up to his time. The Qanun has maintained its authority in medical practice and teaching for more than seven hundred years, and today remains the "bible" of medicine for practitioners in India (both Muslim and Hindu) and throughout the Near and Middle East. Large medical schools are devoted to teaching Avicenna's and huge warehouse complexes are strategically located to dispense remedies from the Qanun ...

The London Dispensary revealed considerable influence of Avicenna up until the end of the eighteenth century, and use of his remedies continued widespread into the nineteenth century, especially in rural parts of North America which rely upon "home remedies". It remains for Western medicine to become familiar with and study this rich source of knowledge as one of the greatest sources of rational medicine ever devised.

Translations of Avicenna's Qanun remain incomplete. A British doctor translated and provided a commentary for the first volume, but the remaining volumes are locked in Arabic and Persian with some translations into the Romance languages.

Western medicine, nor science, has not a figure to compare with Avicenna, and it seems unlikely that one would be produced from the present moulds, rather, a researcher becomes "known" for some so-called discovery, which passes out of fashion quickly, or the drug he devised becomes too dangerous for human use. How many chemical drugs are in use today, that were in use 25 years ago?

Can we now construct—with the foregoing as a foundations model for the Muslim spiritual physician, or simply, the hakim in the fullest and deepest sense of that work, as a new, or reborn figure who can function not only to meet the specific needs of the ever-growing numbers of Muslims in the West, but also as a model for the medical paraprofessional to work with modern doctors to the benefit of the patient? To what extent can modern allopathic medicine be allied with such a model? What are the educational and licensing criteria which can reasonably be established for the modern hakim in the West?

The first need is to establish a pilot training program for Muslim hakims. This would include the primary areas of Islamic religious knowledge, of shariat, of the medical bases inherent in the application of what is usually taken as religious duties, and to present these subjects—these measures and rules for living-in a framework which satisfies the highest standards of academic criteria in the

American model. This can be accomplished during a training period of two years of class work, with the basic curriculum to include anatomy and physiology, organic chemistry, botany and plant pharmacology (herbology), ligamentous tissue adjustment, dietetics and training in first aid and acute symptomology.

To answer such a need, primary textual materials must be developed from those already in use, but keyed to an selected for the Islamic basis of the instruction. Translation of more than one of the classic Islamic medicine tests is a sine qua non, which may be easiest from the Urdu materials which are widely available and already in use in hakimi curricula in Pakistan. Moreover, Works of such import as Qarabaadin-e Kabir, Qanun-ul- Tebb, the Formulary of Al-Samargandy and a few other works are an immediate need. Such texts could be available within twelve months if funding were made available, Insha allah.

In addition to the more or less hard science aspects of such a curriculum, the ideal of Muslim physicians-spiritual physicians-must be taught by example, by precept. For this purpose, practicing hakims from predominantly Muslim countries can be brought in as visiting professors on a one to four semester basis. Likewise, it would be a value to the students, to visit and observe traditional hakims at work in Islamic cultures.

The second Appendix provides an outline for just such a two year training program. It is suggested that following the two year program of education in the hard sciences and other course work, that at least three years be spent under direct supervision of a practicing hakim, to ensure that each student has gained a mastery of fundamentals before undertaking independent practice.

The application of this training to practice in and among, Muslim communities can best be effected in the context of the Masjid, in each city. It is well-known that the mullah or imam is the most frequently visited person in the pathway to health among traditional Muslim cultures. A recent study in Afghanistan showed that for each single visit to a modern pharmacy or medical doctor, the patient visited the mullah ten times.

There exists a very special role for those Muslim physicians who have been trained in Western medicine, and are licensed for its practice. For the ordinary American doctors reject out-of-hand any religious basis for treatment, and the use of herbs are considered in the realm of the "quack." But, there is overwhelming scientific support for using herbs and natural religious modalities for treating the sick.

The intention of establishing a specific Islamic modality in America, is not to compete with or disparage medical doctors. It is rather to provide the supportive

counseling and day-to-day guidance as an integral part of one's deen, which cannot be practiced under existing models of medicine. The diseases of alcoholism and mental illness, for example, will respond well to natural herbs, detoxification and spiritual counseling, but the requirements in terms of time are severe. A hakim can fill this need better than any institutional form of therapy, or any known drug therapy. For the diseases of today are the diseases of the soul, and demand fully supportive environments and an Islamic way of life to effect a true cure. Drugs can never remove the causes of loneliness, estrangement of family members, lack of self-worth, pressures of environment-but Islamic medicine can. Medical doctors must be available for consultation by patient and hakim, whenever concern for pathology arises.

The question of licensing requirements for hakims trained under this program arises. The first amendment to the Constitution of the United States exempts the "practice of religion", from regulation, and the Supreme Court has consistently held that Congress shall make no laws regarding the practice of religion. Lesser judicial bodies, and statutory laws, have also exempted religious practice from medical practice acts. Since the hakims would be an integral part of the Islamic religious community, in fact at its very core, there would be no interference from regulatory agencies of the state. As the training of initial classes proceeded, there may be developed some form of recognition certificate from the IMA or similar bodies. In any event, criteria for practice would be well established.

A glance around the society we live in compels one to realize that there must be developed some alternative therapeutics to the allopathic model as it currently exists. There has been a proliferation of a truly amazing array of "natural" therapies, some of which are clearly based on wrong assumptions, and mislead people into further degeneration of the mental and physical health. As Muslims, we possess the latest and most complete Medical Tradition and are rapidly approaching the time when we may be in error to fail to actively promote this system and way of life. We cannot assume that all of the edifice of research of Islamic Medicine is simply rank superstition, based as it is upon the Holy Qur'an? There will no doubt need to be some adjustments made in the time manner and places where we choose to present this system, but can any excuse be offered as valid to delay, when the cost is life itself, and the suffering- of so many people.

In Tucson, Arizona, in conjunction with the Chishti Mission and Masjid Tucson, we have successfully implemented a pro-ram according to the outline given here, and it is an active and thriving model in our community. This arose initially out of necessity, to serve those whom modern medicine failed, and from small success, Allah the Merciful has guided us along, Subhan allah.

We would therefore like to ask this 11 th Annual Convention of the Islamic Medical Association of the United States and Canada, to take an historic and forward-moving role, and formalize a program to implement the goals and ideals outlined heretofore in the field of Islamic Hakimi medicine.

Eventually, with a fully-functioning Islamic Medical Research Institute, along with the many dozens or hundreds of Muslim hakim practitioners, Muslims in America and the West can create the model of medical treatment for the future, secure in the knowledge and promise of Allah t'ala, that it is the only fit conduct for our lives on this earth, to follow His commands, and nature this tendency in our fellow men, in our children and in ourselves.

The utilitarian social, and medical systems pass out of vogue because they are based upon the ideas of man, and the ideas of man can never be eternal, cannot cover the whole ground of man's existence and nature. But ours is an Ideal, of true healing and remedy of the, soul and body, exemplified by the last and greatest of prophets, Muhammad (AS). Islamic medicine takes up the individual, but in his relation to the Infinite.

We therefore see that there is an indisputable necessity for a religious basis to work in healing and health, and this will continue to be so if mankind wishes to be successful and happy. All else is a mirage, misleading and absurd, empty rhetoric. in light of the matured experience of our ancestors in the faith of Islam.

What is needed today, more than all the advancements of science, is a return to the simple, eternal laws for living, as shown in the way of life of Islam. Resurrection of our health, of body, mind and soul, utilizing the medical traditions of Islam, as shown by the light of Islam the Prophet Muhammad (AS), is the true need for the salvation of the plagues which now disturb the souls of men.

In this uphill task, everyone will be required to make concessions and sacrifices, to earn the goodwill of mankind, and blessings of Allah.

This paper was presented at the 11 th annual convention of The Islamic Medical Association which was held in Dearborn, Michigan during September 22-24, 1978.

Ya Shafee! Ya Kafee! Zul Jalal Wal Ikram! Salaamm Alaikum!

Islamic Philosophy Of Medicine

Amanullah Khan, M.D., Ph.D.

"Nor walk on the earth with insolence; for thou canst nor rend the earth asunder, nor reach the mountains in height." XVII:37

The belief is a very strong component of our religion.

Islam itself means submission to the will of Allah. the religion places tremendous responsibility on the individual.

It is the individual himself or herself that is answerable for all his or her deed and no one else will help on the day of judgement.

"Namely, that no bearer of burdens can bear the burden of another;"

"That man can have nothing but what he strives for;"

"That (the fruit of) his striving will soon come in sight;"

"Then will he be rewarded with a reward complete"LIII: 38-41

Thus, the principles laid down by Islam attempted to purge the society of tribal traditions and ills and helped create a healthy society.

MUSLIM QUEST FOR KNOWLEDGE AND HARMONY AMONG RELIGIONS:

This is mostly a discussion of the philosophy of Islam as it affected science in general and medicine in particular. As Islam spread rapidly during the 7th and 8th centuries, Muslims came in contact with the older civilizations. During this period of interaction, the Muslim philosophy provided a perfect stage for the retrieval and preservation of olden literary treasures.

There was tremendous emphasis on acquiring knowledge.

The Arabic language served as flexible medium for translation of these works. Great literary centers developed extending from India to Eastern Europe, as the Byzantine and Persian Empires were annexed to the Muslim world and the Greek medicine was way past its epoch. the school at jundeshapur, after islam reached the Persian empire, was not only left untouched but the learning at this institution was greatly encouraged. The learned were patronized and given every facility for propagating knowledge. Most of them were Christians or Jews at that time. The

learning center and Jundeshapur became fervent with activity during the period of Abbasids, It served as a melting pot for Nestorian physician, Greek physicians who were leaving Athens, and physicians arriving from India and Syria. It became a large medical center. People were sent long distances in search of remedies and medical knowledge. Many Greek works were translated into Arabic.

PERIOD OF TRANSLATION AND AMALGMATION:

Greek medical works, especially those of Galen were translated during the early 9th century by a prolific translator Humayn ibn Ishaq and his disciples in Bagdad, which became one of the great learning centers of that period. He translated voluminous materials and many of these manuscripts can still be found in the libraries of Constantinople. He also wrote manuals and textbooks, for students, such as "Question on Medicine" (which was in the question and answer form), "Ten treatises on the Eye" (the first text book of ophthalmology) and numerous other similar works. Humayan demonstrated that he was an excellent editor because his writings were very succinct, and translated from at least three different manuscripts of a book so as to maintain and preserve the original thought. Compendiums of medical knowledge were compiled discussing various diseases systematically. This provides evidence of the understanding of medicine even in those early days.

Hygiene was emphasized

Diseases of systems starting from the head,
ending at the feet

Infectious diseases

Toxicology

Fractures

Nutrition

Sex

Each disease was discussed clearly giving the etiology, signs and symptoms and the treatment.

THE ERA OF NEW KNOWLEDGE

Following this initial period of amalgamation and translation of Greek, Persian, and Indian medicine, a great upsurge in new thought was seen during the 9th and 10th centuries.

I would like to quote the example of al Razi - also known as Rhazes.

He was a Persian Muslim who trained under Hunayn ibn Ishaq.

he must be regarded as one of the greatest physicians of all times, who produced over 100 medical writings. One of the most comprehensive books on medicine was written by al-Rhiz and entitled al-Hawi. It consisted of 20 volumes. The diseases were described clearly drawing on the experience of Greek, Arabic, Syrian, Persian, and Indian physicians and he concluded by adding his own observations and experience. His work on smallpox and measles was translated for centuries to come in other languages.

The breadth of his wisdom and the scope of his understanding of the humanistic and ethical problems faced by the physician can be seen by merely looking at some of the titles of his works.

"Why People Prefer Quacks and Charlatans to skilled Physicians?"

"Why Ignorant Physicians, Laymen, and Women have more Success than learned Medical Men?"

"On the fact that even skilled physicians Cannot Heal All Diseases?"

These titles also suggest that in spite of vast understanding of medicine as practiced at that time, he was well aware of the shortcomings as a physician.

This period saw numerous other physicians, both in the Eastern and Western Islamic empire. One of the well-known names of that period is Abu Ali al-Husayn ibn Sina also known as Avicenna. One of his well-known books is the Canon of Medicine. This was an excellent encyclopedic work. I could mention numerous works by Muslim physicians establishing the influence of the Islamic period which molded the shape and future of medicine.

These works were read, translated, and repainted for many centuries to come. Hospitals and medical academies were created throughout the Islamic world. These also served as teaching centers for medical students, where learned physicians taught medical science. Most of the training was in the form of apprenticeship with experienced physicians. There was also a system of granting diplomas and inspecting the skill of physicians, pharmacists, barbers, and orthopedic surgeons. The annual pilgrimage to Mecca also served as a factor in dissemination of medical knowledge. Physicians would travel long distances, stopping to discuss medical problems and their skills on the way to the pilgrimage, thus disseminating their own knowledge and acquiring new skills.

EMPHASIS ON PREVENTIVE MEDICIEN:

The philosophy of Islam in itself contributed to better hygiene and principals of preventive medicine. for example, I would like to quote from Hadith (the Actions and Sayings of Prophet Mohammad and his Companions).

"If you hear about plague in a land, don't go to it, but if you were in that land, don't run away."

"No son of Adam would fill a container worse than his stomach."

"The stomach is the home of illness and dieting the head of all treatment".

Cleanliness was also emphasized a great deal. Qur'an emphasized cleanliness also: "And thy garments keep free from stain." LXIV:4

"O, ye who believe when ye prepare for prayer, wash your faces and your hands to the elbows, rub your heads (with water) and wash your feet to the ankles." V:7

Qur'an again emphasizes purity of food that you consume:

"This day or (on) things, good and pure make lawful unto you. The food of the people of the Book is lawful unto you and yours is lawful unto them." V:6

Again from Qur'an

"Forbidden to you (for food) are: dead meat, blood, the flesh of swine, and that on which hath been invoked the name of other than God; That which hath ben killed by strangling, or by a violent blow, or by a headlong fall, or by being gored to death; that which hath been (partly) eaten by a wild animal; unless ye are able to slaughter it (in due form); That which is sacrificed on stone (altars); (Forbidden) also is the division (of meat) by raffling with arrows; that is impiety." V:4

The use of various intoxicant was prohibited. Qur'an refers to this as follows: "O, ye who believe intoxicants and gambling (dedication of) stones and (divination by) arrows are an abomination of Satan's handiwork; Eschew such (abomination), that ye may prosper." V: 93

ISLAMIC PHILOSOPHY AND MEDICAL ETHICS

One of the hottest issues in medicine, these days, is the subject of medical ethics, morality, and liability. If one looks back, it becomes apparent that Hadith refers to these problems. It will also be of interest to note that problems faced by the physicians and the patients today, are not any different from the problems faced at that time. I would like to quote hadith on the responsibility of the physicians.

"A person who ever practice treatment when he was not known to be acquainted with medicine before, will be responsible".

Another Hadith delineates when a patient should seek treatment:

"You servants of Allah, seek treatment, for Allah didn't send down an illness that Allah didn't send down treatment for it."

Hadith also make treatment mandatory or obligatory when a treatment was definitely available and also if holding off this treatment would be harmful. However, if one is not assured of benefits from a treatment and harm could occur, then it is discouraged. These principals were designed to discourage quackery and protect the patient.

One of the most extensive works dealing with ethics was written by Ishaq ibn Ali al-Ruhawi. He as a Christian who embraced Islam and had also written works on Galen. It will not be possible to cover all facets of his writings. His book, Adab al-Tabib (Ethics of a Physician) is an extensive work which cannot be discussed at length due to constraint of time. It consisted of 112 folios with 17 lines per page. This was found in Suleymaniye Kitabane. English translation of which appears in the The Transactions of the American Philosophical Society, Vol. 57, part 3, 1967, Philadelphia. The Islamic philosophy served as a basis for defining and suggesting solutions of the ethical and moral problems facing physician. the translator of this work, Martin Levy, in his preface says, and I quote:

"In addition, the contents of this work are remarkable in their delineation of the manner in which Muslim (and to lesser extent, Christians) religious ideas were made to harmonize with the older science and ethics of the Greeks in particular.

The Islamic philosophy and the Muslim code was so realistic and practical, that al-Ruhawi was at ease in dealing with this difficult subject. The society was changing from a tribal primitive society to a more orderly society with emphasis on human value and strong religious feelings, These were times of great changes. Therefore, the setting for this work was not any different from the one prevailing at present. It may be worthwhile just to glance at the titles of the 20 chapters of Adab at-Tabib,

1. Loyalty and Faith of the Physician, and Ethics he Must follow to improve His soul and Morals.
2. Care of the Physician Body.
3. What the Physician Must Avoid and Beware of .
4. Directions of the Physician to the Patient and Servant.
5. manners of the Visitors .

6. Care of Remedies by the Physician.
7. What the Physician Asks the Patient and the Nurse.
8. What the Patient May Conceal from the Physician.
9. How the Healthy and ill Must Take Orders of the Physician.
10. Training of Servants by the Patient before illness.
11. Patient and Visitors.
12. Dignity of the Medical Profession.
13. Respect for the Physician.
14. Physicians and Peculiar Incidents to Aid Treatment.
15. Medical Art for Moral People.
16. Examination of Physicians.
17. Removal of Corruption of Physicians .
18. Warning against Quacks.
19. Harmful Habits
20. Care of the Physician Himself

Adab al-Tabib is a beautiful illustration of the fact that problems of responsibility, ethical dilemmas, and needs of the society are nothing new to medicine. A review of this work brings home the realization that the present day physician may have been derelict in his responsibility towards the current ethical needs. In the past, it was the physician who was the advocate of morality, who defended ethics, and who was in the forefront in delineating these areas. During the recent years, due to a verity of reasons, such as busy life, narrow approach or lack of emphasis on ethics during his medical training, he has failed to emerge as a stalwart among the defenders of ethics and morality.

The definition of ethics and morality in medicine has lately become a favorite topic for politicians and non-physician bureaucrats who lack the insight into the whole gamet of patient-physician relationship. It is time that the physician got back into the saddle and he is still in a great position to do so. He is still regarded very highly and trusted by the people as shown by the polls. Unless the physician takes proper steps, the public trust is likely to wither away. Every teaching physician needs to realized his duty - to train the budding physicians, not only in the art of medicine, but also in handling the ethical dilemmas of medical practice.

In the present day controversies of medical ethics, certain other aspects of the responsibilities of the other parties involved, which have been well delineated by Ruhawi, have been completely ignored in the recent years. For example, the responsibilities of the patient and the society towards a physician. The patient has equal responsibility in the relationship between the physician and the patient. Similarly, the society has to realize the nature of demands placed on a physician and afford him the support that he may need at times.

"Modern Stress And Its Cure From Qur'an"

Shahid Athar , M.D.

Stress is the most common ailment of modern age. It has been implicated in the causation of peptic ulcer disease, coronary heart disease, depression, auto immune disease, hypertension, diabetes and even cancer. In milder form it manifests in form of unrest, violence, at work, school and home. Common medical problems like tension headache, insomnia, and obesity are also attributed to unusual stress. None of us are free from stress but some deal with it better than others.

Stress results from the following factors:

- a. Fear of the unknown and trying to see through and control the destiny.
- b. Losses in our life of people and things dear to us and our inability to recover those losses.
- c. Inner conflict between our heart and mind between what is known to be the truth and our failure to accept it as truth. Acceptance of truth may require changing our habits and way of life which we may adhere to for some reason like pleasure, joys, taste, pride in race or heritage etc.

Let us examine how Quran deals with such situations.

Our losses are a trial for us:

"Be sure we will test you with something of fear and hunger, some loss in goods or lives, but give glad tidings to those who are steadfast, who say when afflicted with calamity: To God we belong and to him is our return. They are those on whom (DESCEND) blessings from God and mercy and they are the ones that receive guidance. 2:155

Thus in Islam, we do not have concept of the ownership of goods and life. Everything belongs to God and returns to him. So if we don't own that thing why mourn our loss?

- a. Our destiny is predetermined. We do not have control on that part. What we have control over is a limited free will, that is our actions, our choice to do good or bad, to believe in God or not to believe in Him, but we have no control over tomorrow's event not related to our actions i.e. whether my wife will have a son or daughter, whether his/her eyes will be brown or black, or whether I will have an accident or not tomorrow. WorTying over such things is of no use.

b. Rejection of faith in Quran is called a disease. This denial of truth is due to arrogance.

"In their heart there is a disease and God has increased their disease and grievous is their penalty because they lie to themselves." 2:10

Therefore after lying to ourselves, we set up an inner conflict - between heart and mind. In order to contain that conflict the mind sends signals to glands for secretion of hormones like adrenaline which leads to rapid heart rate, perspiration, tremor, the basis of lie detector test.

This lying conflict could be due to "SMALL" crimes like theft or adultery, or big crimes like rejection of God.

3 stages of spiritual development of soul age

a. Nafsul Ammara: -The Passionate soul "I do not absolve myself Lo the (human) soul is prone to evil, save that whenever my Lord has mercy. Lo, Lord is forgiving; merciful." 12:53 (Surah Yusuf)

This soul inclines toward sensual Pleasure, passion and self gratification , anger, envy, greed, and conceit. Its concerns are pleasure of body, gratification of physical appetite, and ego.

Hadith "your most-ardent-enemy is your evil self which resides within your body" (Bukhaii).

If this evil soul is not checked wiR lead to unusual stress and its resultant effects.

- b. Nafsul Lawanunah (The Reproaching Soul). "Nay, I swear by the reproaching soul" 75:1

This soul is conscious or aware of Evil, resists it, asks for God's grace, and pardon, repents and tries to ammend and hopes to achieve salvation.

"And (There are) others who have acknowledged their faults. They mix a righteous action with another that was bad. It may be that Allah will relent toward them. Lo! Allah is relenting, merciful." 9:102

Hadith "These are two impulses within us. One spirit which calls towards good and confirms the truth. He who feels this impulse should know that it comes from Allah. Another impulse comes from our enemy (Devil) which leads to doubt and

holds untruth and encourages evil. He who feels this should seek refuge in Allah from the accursed devil."

This soul warns people of their vain desire, guides and opens the door to virtue and righteousness. It is a positive step in spiritual growth.

c. The satisfied soul (Nafsul Mutmainnah). "O (you) soul in (complete) rest and satisfaction. Come back to your Lord, will pleased (yourself) and will pleasing unto him. Enter you then among my devotees, enter you in my heaven." 89:27-30

This is the highest state of spiritual development. satisfied soul is the state of bliss, content and peace. The soul is at peace because it knows that inspite of its failures in this world, It will return to God. Purified of tension, it emerges from the struggle with obstacles blocking the peace of mind and heart.

What should we do in panic and despair? In panic non-believers behave differently than believers. They have no one to return to, to ask for mercy and forgiveness, their life is this life, which they cannot control, thus get more depressed and increase in their state of wrong doing. Then we will see that if they are used to casual drinking will start drinking more and become alcoholic, or a barbitol criminal.

On the other hand a believer should do the following:

a. Increase dhikr (Remembrance of God)

"who have believed and whose heart have Rest in the remembrance of God. Verify in the remembrance of God, do hearts find rest." 13:28

b. Increase their prayer.

"O you who believe, seek help with steadfastness and prayer. For God is with those who are steadfast." 2:153

c. Ask forgiveness

"And I have said: seek forgiveness from your Lord. Lo He was ever forgiving."

71:10

In addition to above we are also asked to continue to struggle to up-grade ourselves.

" surely God does not change the condition in which a people are in until they change that which is in themselves." 13:11

In summary, I conclude that stress results from lack of inner peace due to conflicts within us and leads to external disturbances in our behavior and health. Inner peace can only be achieved by believing in God, the All Mighty, and remembering him frequently and asking for his help and forgiveness in times of difficulties.

Medical Aspects Of Islamic Fasting

Shahid Athar, M.D.

There are close to 900 million Muslims in the world, including about 8 million in the North America. The majority of them observe total fasting (no food or water) between dawn to sunset in the month of Ramadan. They do so not for losing weight or any medical benefit, but for them it is ordained in their Holy Book Quran which says.

"O you who believe! Fasting is prescribed to you, as it was prescribed for those before you (i.e. Jews, & Christians) so that you may (learn) self-restraint." 2:183

According to Islamic Laws, children below 12, sick patients, travelers, and women who are menstruating or nursing a baby are exempt from fasting. In addition to staying away from food or water for the whole day, they are asked to stay away from sex, smoking or misconduct during the period of fast. In addition, they are encouraged to do more acts of piety i.e. prayer, charity, or reading Quran during this month.

Food is needed by the body to provide energy for immediate use by burning up carbohydrates, that is, sugar. Excess of carbohydrates which cannot be used is stored up as fat tissue in muscles, and as glycogen in liver for future use. Insulin, a hormone from the pancreas, lowers blood sugar and diverts it to other forms of energy storage, that is, glycogen. To be effective, insulin has to be bound to binding sites could receptor. obese people lack receptor; therefore, they cannot utilize their insulin. This may lead to glucose intolerance.

When one fasts (or decreases carbohydrate intake drastically), it lowers his blood glucose and Insulin level. This causes breakdown of glycogen from liver to provide glucose for energy need and breakdown of fat from adipose tissue to provide for energy needs.

On the basis of human physiology described above, semi-starvation (ketogenic diets (I -5) have been devised for effective weight control. These diets provide calculated amount of protein in divided doses with plenty of water, multi-vitamins, etc. These effectively lower weight, blood sugar, but because of their side effects, should be used only under supervision of physicians.

Total fasting reduces or eliminates hunger and causes rapid weight loss. In 1975, Allan Cott in his "Fasting as a Way of life" noted that "fasting brings a wholesome physiological rest for the digestive tract and central nervous system and normalizes metabolism." It must be pointed out, however, that there are also many adverse effects of total fasting. That includes hypokalemia and cardiac arrhythmia associated with low calorie starvation diets used in unsupervised manner.

Studies On Islamic Fasting

Dr. Soliman, from the University Hospital, Amman, Jordan (ref. 8) has reported that during the month of Ramadan 1404 AH (June-July, 1984 AD) healthy Muslim volunteers; 42 males and 26 females, ranging in age from 15-64 and 16-28 years respectively were studied. They were weighed and their blood levels of cortisol, testosterone, Na, K, urea, glucose, total cholesterol, high density lipoprotein (HDL), low density lipoprotein (LDL), triglycerides (TG) and serum osmolality were measured at the beginning and at the end of Ramadan. There was significant loss of weight in males from a mean of 73.8 \pm 6.2 kg to 72.0 \pm 7.1 kg (P less than 0.01) and in females from 55.2 \pm 4.8 to 54.6 \pm 4.2 kg (P less than 0.05). Blood glucose levels rose in males from 77.7 \pm 23.6 mg/dl to 90.2 mg/dl (P less than 0.05) and in females from 76.0 \pm 7 mg/dl to 84.5 \pm 1.1 mg/dl (P less than 0.002). All other parameters did not show significant changes.

Dr. F. Azizi and his associates (ref.9) from the University of Medical sciences, Tehran, Iran has reported the following. serum levels of glucose, bilirubin, calcium, phosphorous, protein, albumin, FSH, LH, testosterone, prolactin, TSH, T₄, T₃, and T uptake, as well as prolactin and TSH responses to TRH were evaluated in group of nine healthy men before and on the 10th, 20th and 29th days of Ramadan. Mean body weight decreased from 65.4 \pm 9.1 to 61.6 \pm 9.0 kg at 29th day. Serum glucose decreased from 82 \pm 4 mg/dl on the 10th day, and increased thereafter (76 \pm 3 and 84 \pm 5 on the 20th and 29th days of fasting respectively). Serum bilirubin increased from 0.56 \pm 0.17 to 1.43 \pm 0.52 mg/dl on the 10th day, and decreased thereafter (I. I. \pm 0.4 on the 20th and 29th days.) All Changes returned to basal values four weeks after fasting. There were no significant changes in serum levels of Ca, P, protein, albumin, and any of measured hormones. Prolactin and TSH responses to TRH were also unaltered. He concluded that: (1) intermittent abstinence from food and drink for 17 hours a day for 29 days does not alter male reproductive hormones, hypothalamic-pituitary-thyroid axis or peripheral metabolism of thyroid hormones and (2) physicians caring for Muslims should be aware of changes of glucose and bilirubin during Ramadan.

Therefore it is concluded from the above two studies that Islamic fasting does not

cause any adverse medical effect and may have some beneficial effect on weight and lipid metabolism.

Why Islamic Fasting Is Different Than Other Types of Fasting (ref. 7)

The Islamic fast, is different from the above "Diet Plans". It has beneficial features of both plans. Its unique medical benefits are due to the following factors :

I. As compared to other diet plans, in fasting during Ramadan, there is no malnutrition or inadequate calorie intake since there is no restriction on the type or amount of food intake during Iftaar or Sahar.

This was confirmed by M.M.Hussaini (ref. 6) during Ramadan 1974 when he conducted dietary analysis of Muslim students at the University of North Dakota State University at Fargo.

He concluded that calorie intake of Muslim students during fasting was at two thirds of NCR- RDA. 2. Fasting, in Ramadan is voluntarily undertaken. It is not a prescribed imposition from a physician. In the hypothalamus part of the brain there is a center called "lipostat" which controls the body mass. When severe and rapid weight loss is achieved by starvation diet, the center does not recognize this as normal and, therefore re-programs itself to cause weight gain rapidly once the person goes off the starvation diet. So the only effective way of losing weight is slow, self-controlled, and gradual weight loss by modifying our behavior, and the attitude about eating while eliminating excess food. Ramadan is a month of self-regulation and self-training in terms of food intake thereby causing hopefully, a permanent change in lipostat reading.

3. In Islamic fasting, we are not subjected to a diet of selective food only (i.e. protein only, fruits only etc). An early breakfast, before dawn is taken and then at sunset fast is broken with something sweet i.e. dates, fruits, juices to warrant any hypoglycemia followed by a regular dinner later on.

4. Additional prayers are prescribed after the dinner, which helps metabolize the food. Using a calorie counter, I counted the amount of calories burnt during extra prayer called Traveeh. It amounted to 200 calories. Islamic prayer called Salat uses all the muscles and joints and can be placed in the category of a mild exercise in terms of caloric output.

5. Ramadan fasting is actually an exercise in self discipline. For those who are a chain smoker, or nibble food constantly, or drink coffee every hour, it is a good way to break the habit, hoping that the effect will continue after the month is over.

6. Psychological effect of Ramadan fasting are also well observed by the description of people who fast.

They describe a feeling of inner peace and tranquility. The prophet has advised them "If one slanders you or aggresses against you, tell them I am fasting". Thus personal hostility during the month is minimal. Crime rate in muslim countries fall during this month.

It is my experience that within the first few days of Ramadan, I begin to feel better even before losing, a single pound. I work more and pray more; physical stamina and mental alertness improve. As I have my own lab in the office, I usually check my chemistry, that is, blood glucose, cholesterol, triglyceride before the commencement of Ramadan and at its end. I note marked improvement at the end. As I am not overweight, thank God, weight loss is minimal. The few pounds I lose, I regain soon after. Fasting in Ramadan will be a great blessing for the overweight whether with or without mild diabetes (type II). It benefits those also who are given to smoking or nibbling. They can rid themselves of these addictions in this month.

Fasting For Medical Patients: Suggested Guide-line (ref. 10)

As mentioned earlier, patients are exempt from fasting. But some, for whatever reasons, do decide to observe fasting. For physicians treating Muslim patients, the following guidelines are suggested.

a. Diabetic Patients: Diabetics who are controlled by diet alone can fast and hopefully with weight reduction, their diabetes may even be cured or at least improved. Diabetics who are taking oral hypoglycemia agents like Orinase along with the diet should exercise extreme caution if they decide to fast. They should reduce their dose to one-third, and take the drug not in the morning, but with Iftar in the evening. If they develop low blood sugar symptoms in the day time, they should break the fast immediately. Diabetics taking insulin should not fast. If they do, at their own risk, they should do so under close supervision and make drastic changes in the insulin dose. For example, eliminate regular insulin altogether and take only NPH in divided doses after Iftar or before Sahar. Diabetics, if they fast, should still take a diabetic diet during Iftar, Sahar and dinner. The sweet snacks common in Ramadan are not good for their disease. they should check their blood sugar before breakfast and after ending their fast.

b. Hypertensive or Cardiac Patients: Those who have mild to moderate high blood pressure along with being overweight should be encouraged to fast, since fasting may help to lower their blood pressure. They should see their physician to adjust medicines. for example, the dose of water pill (diuretic) should be reduced for fear of dehydration and long acting agents like Inderal LA or Tenormin can be given

once a day before Sahar. Those with severe hypertension or heart diseases should not fast at all.

c. Those with Migrain Headache: Even in tension headache, dehydration, or low blood sugar will aggravate the symptoms, but in migraine during fasting, there is an increase in blood free fatty acids, which will directly affect the severity or precipitation of migraine through release of catecholamines. Patients with migraines are advised not to fast.

d. Pregnant Women (Normal Pregnancy): This is not an easy situation. Pregnancy is not a medical illness, therefore, the same exemption does not apply. There is no mention of such exemption in Quran. However, the Prophet said the pregnant and nursing women do not fast. This is in line with God not wanting anyone, even a small fetus, to suffer. There is no way of knowing, the damage to the unborn child until the delivery, and that might be too late. In my humble opinion, during the first and third trimester (three months) women should not fast. If however, Ramadan happens to come during the second trimester (4th-6th months) of pregnancy, a women may elect to fast provided that (1) her own health is good, and (2) it is done with the permission of her obstetrician and under close supervision. The possible damage to the fetus may not be from malnutrition provided the Iftar and Sahar are adequate, but from dehydration, from prolonged (10-14 hours) abstinence from water.

Therefore it is recommended that Muslim patients if they do fast. do so under medical supervision.

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Islamic View Of The Well-Being Of Man

Ala' Eddin Kharofa

Dear brothers and sisters,

First of all I would like to thank my brother, Dr. Zikria, Chairman of the Conference, for inviting me to talk on this occasion, on the topic of the "Islamic View of the Well-Being of Man." I feel embarrassed indeed to talk to you on this subject, because you are more qualified than me to talk about it, since you are experts in the science of the body of man.

Brothers and sisters, the view of Islam of the well-being of man is to abstain from everything that it has forbidden, and to do everything that it has commanded him to do.

If anyone studies in detail the science of Jurisprudence, he will amazed how Islam takes care of man, not only his childhood, but even before he is born.

Let us begin with the first stage of human being, the fetus. Islam considers fetus a human being who has right in inheritance. Islam gave the fetus part of the inheritance to be kept until it is born.

After birth and during childhood if the parents are separated, Islam recommends that the child is to stay with the woman, to be suckled and raised by a woman, and not by a man at this age. I mean from the day he is born until the age of 7 or 9 - according to the opinion of different scholars, he is to stay with a woman. It is obvious that the woman is more patient than the man in this regard. She will suckle and raise the child happily. We see mothers spending days and nights, raising their children and they do so without any complaint, It is a secret of Allah

(S.W.T.).

Islam recommends parents to be patient with the child and raise him according to the teachings and principles of Islam. Parents should teach the child prayer, and should order him to pray at the age of seven and to study religion. Then Islam ordered the children to obey their parents totally and blindly, since they cannot have any better well-wishers than them.

Islam urges its followers to acquire knowledge. God says in His book:

ARE THOSE EQUAL, THOSE WHO KNOW AND THOSE WHO DO NOT KNOW? IT IS THOSE WHO ARE ENDUED WITH UNDERSTANDING THAT RECEIVE ADMONITION. (Zumar. 39:9)

In another verse,

God Says:

THOSE TRULY FEAR GOD, AMONG HIS SERVANTS, WHO HAVE KNOWLEDGE: FOR GOD IS EXALTED IN MIGHT, OFT-FORGIVING.

(Fatir. 35:28)

GOD WILL RAISE UP: TO (SUITABLE) RANKS (AND DEGREES), THOSE OF YOU WHO BELIEVE AND WHO HAVE BEEN GRANTED KNOWLEDGE. (Mujadila. 58:11)

Knowledge in Islam is very important. Its importance can be grasped by the fact that the very first word of Wahi (=Revelation) is "Iqra" (=Read!). And one chapter of the Divine book (chapter 68), bears the title "Qalam," which means "the Pen" the implement of writing, and writing is the art which has preserved all knowledge for man. Its first verse reads:

NUN. BY THE PEN AND BY THE (RECORD) WHICH ANGELS WRITE.

At the very beginning of Quran, we read in Sura Baqr about the angels, who expressed their reservations about Adam's fitness to be God's vicegerent on earth. God convinced them that Adam had this fitness, because he had knowledge of the names of the things which they (the angels) did not have. The angles had to concede that Adam was superior to them, because he had knowledge, and he was, therefore, worthy of being Gods vicegerent on earth.

Quran Majid has repeatedly made reference to the

(=men who are well - grounded in knowledge),

And has told the people to defer to them in the event of any difficulty.

Our Prophet, Mohammed (S) himself equated knowledge with "nur" (=light), and a blessing of God, and all his life, he urged his Sahaba and his umma to acquire it.

Brothers and sisters: Islam is responsible to protect his body as well as his soul, and let us see how it protects the body.

First to protect the mind of man which is part of the body, Islam legislated the prohibition of liquor. I am not going to read the verses about liquor so that I can save some time. If a man is going to drink liquor, he is going to lose his mind. Then he is going to commit crimes. In addition to this, liquor is hurting the body of human beings. Therefore, Islam has forbidden the consumption of all kinds of liquor. You know only too well the damage that liquor does to the body and mind of man.

To protect the whole body of human being, Islam has legislated capital punishment for the intentional killer. Allah says:

NOR TAKE LIFE - WHICH GOD HAS MADE SACRED - EXCEPT FOR JUST CAUSE. AND IF ANYONE IS SLAIN WRONGFULLY, WE HAVE GIVEN HIS HEIR AUTHORITY (TO DEMAND QISAS OR TO FORGIVE): BUT LET HIM NOT EXCEED BOUNDS IN THE MATTER OF TAKING LIFE; FOR HE IS HELPED (BY THE LAW).

(Bani Israel. 17:33)

In another verse God says:

IN THE LAW OF PUNISHMENT THERE IS (SAVING OF) LIFE TO YOU, O YE MEN OR UNDERSTANDING:

THAT YE MAY RESTRAIN YOURSELVES.

(Baqrah. 2:179)

And our Prophet, Mohammed (S) said:

THIS HUMAN BEING IS A BUILDING OF GOD ON THIS EARTH, AND GOD IS GOING TO DESTROY ANYONE WHO IS GOING TO DESTROY THIS BUILDING.

The Islamic view of the crime of killing is absolutely the best. However, time does not allow me to elaborate on it.

To protect the wealth of a human being, Islam has legislated the chopping off of one's hand. God says in verse 41 of the fifty chapter (Al- maida):

AS TO THE THIEF, MALE OR FEMALE, CUT OFF HIS OR HER HANDS: A PUNISHMENT BY WAY OF EXAMPLE FROM GOD. FOR THEIR CRIME: AND GOD IS EXALTED IN POWER.

This type of punishment, seems very severe; but I would like to emphasize that this punishment should not be practiced unless the society is practicing Islam completely, and the thief does not find it necessary to steal.

Khalifa Umar bin al-Khattab (R) did not cut the hands of four thieves who had stolen because of their hunger and need, when there was an acute famine in Arabia.

Islam is very much interested in establishing a society that is pure, that is free from the filth of sin and crime, a society in which men and women would live in total freedom from fear of all kinds, including fear of crimes and violence. It, therefore, wishes to build that society on foundations of piety, fear of God, and absolute justice, in which each person would respect the rights of other people and would not trespass on them.

We are living in this country, and we are suffering from the threat of insecurity, because of the number of the crimes in this society. I think it is not out of place to mention here the average rate of crimes in this country, and do not be shocked:

one murder	every 27 minutes
one larceny-theft	every 5 minutes
one motor-vehicle theft	every 33 seconds
one violent crime	every 31 seconds
one forcible rape	every 8 minutes
one robbery	every 78 seconds
one aggravated assault	every minute
one burglary	every 10 minutes

We as Muslims, have to feel the need of Islamic medicine, "the punishment," more than anyone else. since we know the influence of the punishment on the society, and we believe in it, and it was prescribed to us by Allah.

I am quite sure that if this country changes its policy of punishment, you will see another result and another situation. The punishment according to the scholars, has to be severe, and stronger than the crime per se in order to do its job.

Now let us come back to man, and how Islam protects him.

The dignity of human being is protected by Islam and I shall not go into any details explaining this kind of punishment in order to save time.

To help human beings live in happiness and tranquility, Islam has legislated marriage. The ideal life, according to Islam is that a man has to live with his wife, and the ideal life for the woman also is to live with her husband. Islam has recommended that one lives with the society and cooperate with others, and to keep brotherly relations with all. Islam has recommended that the whole community works together. The well-being of man in Islam consists in working together with the community, and not in working alone. he is a member of a team, and must put the team-spirit ahead of him. He is under a moral obligation to safeguard the interests of the 'team' at all times. he must work and live as if the existence of the team depended upon him along. Our Prophet (S) said:

HE WHO DOES NOT CARE FOR MUSLIMS, WILL NOT BE CONSIDERED ONE OF THEM.

If we had followed these teachings, we would not have faced the problems that we had to face in endless, Palestine, Lebanon, Afghanistan, Philippines and lastly, Iran and Iraq.

Brothers and sisters,

What I have told you so far, related to the well-being of the body of man. Now I would like to talk to you briefly about the well-being of the soul of man.

There is one word in Quran that is the key to the well being of the soul of man, and that word is "taqwa," which means "fear of God." When a Muslim commits a sin, he repents before God, and asks for His forgiveness.

If he is sincere in his repentance, and will never repeat the error, he is to be considered good. God in His mercy, might forgive him. But the condition of forgiveness is the man's sincerity. If he is going to repeat his errors, his repentance will not mean anything.

A Muslim knows that his life on this earth is temporary, and he also knows that he is here on "probation" therefore, he does not attach too much importance to

wealth, power, rank, position, children etc. If, through a reversal in fortunes, he loses these, he is not overwhelmed with sorrow. He is not crushed. He never surrenders to despair. He is always full of hope, and knows that adversity might be a test of his faith. He, therefore, puts his trust in God's boundless mercy, and accepts whatever befalls him, without any gripe. He never doubts that things, no matter how bad at the time, would work out for him in the end. His faith in God's infinite mercy remains unshaken through thick and thin. He always remembers the saying of Allah:

THAT YOU MAY NOT GRIEVE OVER WHAT IS LOST TO YOU, NOR EXULT BECAUSE OF THAT WHICH HE HAS GIVEN TO YOU. AND ALLAH LOVES NOT ANY SELF-CONCEITED BOASTER. (Hadid. 57.23)

Brothers and sisters: Allow me please to repeat what I have said in the beginning:

"Islam's view of the well-being of man is to abstain from everything that it has forbidden, and to do everything that it has commanded him to do"

if anyone is going to follow these teachings, he or she will be happy here, and happy in the Hereafter.

I hope that Allah will help us all to do so.

Thank you for your courtesy and your interest.

Wassalaam,

The "Holy Qur'an And The "Psyche"

Tariq I. Hamdi, M.D., & A.M.H. Al-Jadiry, M.D.

Summary...

This is an aspect of the contribution made by the Holy Qur'an' to the field of Psychology and the allied sciences.

Current Psycho-dynamic hypotheses and concepts, especially the freudian and the post freudian, have been looked for in a number of verses which were thought of to carry in their contents numerous incidents of such aspects.

It has become obvious from the analysis of the various verses that the 'Holy Qur'an' had tackled Psycho analytic schools developed.

Introduction

The revelation of the 'Holy Qur'an' to Mohammed, the last prophet to the people, had marked the birth of the Muslim's world.

The 'Holy Qur'an' through its impact upon the mentality and the spirits of the people, had transformed the heterogeneous tribes of the people, had transformed the heterogeneous tribes of the Arabian Peninsula into a great nation. It had extended east and west and stimulated the establishment of the earliest Islamic civilization which supplied science and various sorts of knowledge to many regions of the world (Rodwell, 1933)

Islam fought illiteracy and learning, moreover, it enhanced the development of humanitarian codes for communication.

The 'Holy Qur'an', however, was not a mere book, but a strong living voice addressed primarily to the Arabs. As a book it came to existence after the Prophet's death through the efforts of the third Caliph of the Muslim's Orthodox era 'Uthman'.

In addition to being a religious book, it also covers legal, social, educative and humanitarian codes that had provided the Islamic nation with all the sound principles for the development of their community. It may be viewed as a comprehensive encyclopedia to serve humanity in every respect to life.

The reference index concerning what has been written about the 'Holy Qur'an' is a condensed one, digging through will entail unlimited efforts.

Apparently, the literature written on the 'Qur'an' is devoid of a specific reference to the contribution made to the psychodynamic development of personality and the related psychological processes.

Throughout our reading of the 'Holy Qur'an' we have been attracted to a large number of verses in which the Arabic word 'Al-Nafs' is mentioned. Its sense depends upon the structure of the verse. Among which the meaning intended to convey is the sense of 'Psyche or mind'.

Direct or indirect indications to other psychological matters such as 'Instincts, Id, Ego and Super-ego' had also been mentioned. This has driven us to explore as much of the psychodynamic assumptions and concept as possible and to present it in a brief way with the intention to advocate for the fact that 'Holy Qur'an' is an early reference that had contributed adequately to the central themes of the Freudian and post-Freudian schools. This might motivate the students of dynamic

psychology to exploit such information in their research to find out other psychological realms in it; expecting that this would help them to come up with answers for the insoluble obscurities of the psyche from its psychological context.

Method

'Holy Qur'an' contains 143 verses that encompass the Arabic word 'Al-Nafs'. All these verses were analysed to extract the various meaning of the word.

The word 'Al-Nafs' referring to the 'mind or psyche' is found in 28 verses.

These have received special attention in this study. Few of these verses were quoted for the purpose of this study. A brief definition of the psychodynamic concepts: Psyche, Id, ego and super-ego have also been given.

Discussion

The word 'Psyche' according to the Oxford dictionary, means the spirit, soul or mind; Thus it corresponds with the Arabic word 'Al-Nafs' and its various senses. Hereby we give few examples of such verses:

1. "Nor need I swear by the self-accusing soul."
2. "O thou comforted soul return into thy lord, well-pleased and well pleased with."
3. "Verily, every soul has a guardian over it."

It is also useful here to mention few verses in which the word 'Al-Nafs' conveys the sense of the individual or person: These verses however were not included.

4. "But no soul shall earn aught save against it-self."
5. "And kill not the soul, which God hath forbidden save by eight."
6. "Said she, 'My lord' verily, I have wronged myself..,"

The 'Instinct' is defined as an inborn condition which imparts direction to psychological processes; The sex instinct, for example, directs the psychological processes of perceiving, remembering and thinking toward the goal of sexual consummation (Hall, 1954). No special mention is made of the word instinct in the 'Holy' Qur'an' directly while it has been pointed to the instinctual built of the psyche in a number of verses as:

7. "Yet I do not clear myself for the soul is very urgent to evil. "A pleading of inability to resist such instinctual drive.

8. "Had we pleased we would have given to every soul its guidance. " It points to the fact instincts can be channeled into another direction.

9. "For thus my soul induce me."

That is to say such instinctual impulses drove me to behave so. Freud's concept of personality is that it consists of three provinces: the 'Id', 'Ego' and 'Super-ego'. These operate and interact with each other and with the environment. When they form a unified harmonious organization the person is 'mentally healthy'. The person is said to be 'mal adjusted' when these systems are not working coordinately (Hall, 1954).

The 'Id' is a latinized derivation from Groddeck's (1928) 'das Es' (The It) it is held to be the reservoirs of psychic energy or libido and is fully developed at birth. It is also described as amoral, egocentric, ruled by the pleasure-pain principle and considered, as the seat for the instincts. (Sim, 1974). Here, again, we ought to point out that though there is no particular mention of these 3 constricts in the Holy Qur'an the evidence which point to them are ample, especially the verses that deal with 'Id':

10. "And the soul and what fashioned it, and thought it its sin and its piety."

It means that the Id is born with the individual and that every individual is equipped with good and bad instinct. At the same time it has been declared in other verses, that the instinctual character of the 'Id' may be modified or moulded as in the following verse:

11. "But as for him who feared the station of his lord, and prohibited his soul from lust, verily, paradise is the resort!"

Here, also behavioral approach towards the person (reinforcement of good intentions) is evident. This verse is one example that contains various psycho-social points which include:

- Social approval of good behavior
- The 'Instinctual' characteristic of the 'Id.'
- 'Instincts' which can be modified by the 'Super-ego' (fear of God).
- Behavioural method of approach, that is to say the incentive for good behavior is the heaven (The technique of 'positive reinforcement'). Moreover, the following verses also point to the 'Id' and its instinctual characteristics.

12. "Yet I do not clear myself , for the soul is very urgent to evil".

13. "But if a bad thing (befall) they say this is from thee."

14. "For thus my soul induced me."

15. "And the soul and what fashioned it, and through it its sin and its piety."

External forces can influence the 'Id' and mould it in any shape as in this verse:
16. "Had we pleased we would have given to every soul its guidance."
The 'Id' impulses are modified by the 'Ego' which tests reality and deals directly with the external and internal environment. The 'Ego' is considered as largely conscious logical and has moral standards (Hall, 1954; Sim 1914). From the following verses direction to the 'Ego' can be verified :

17. "For no soul shall be obliged beyond its capacity."

18. "God will not compel any soul beyond what he has given it."

These point to the defamed capacity and the threshold of tolerance of the 'Ego'.

The following verse bears indication to the Ego and Super-ego as well:

19. "And every soul shall come -with it a driver and a witness!"

The driver here corresponds with the freudian 'Ego' and the witness with the super-ego. The Ego's defense 'projection' which prevents the ego from disintegration, is obvious in the following verse:

20. "Nor need I swear by the self accusing soul."

Another psychological description of the Ego appears in this verse: 21. "O Thou comforted soul....."

In the following verse we find an indication of obsessionality traits:

22. "But we created man, and we know what his soul whispers."

The 'Ego is influenced by the 'Super-Ego' which is the moral or judicial branch of personality. The 'Super'Ego' primarily considered unconscious. It is the moral monitor which is responsible for the sense of guilt and a consequence of a child's assimilation of his parent's standards (Hall 1954, Sim 1974). The 'Super-Ego' "received no less attention and clearly demonstrated in the coming verses:

23. "And the soul and what fashioned it, and though it is sin and its piety." It is meant here that the individual is born two conflicting powers; the power of 'Id' which is bad and the power of the 'Super'Ego' which is good. The 'Super-Ego' can influence the impulsiveness of the 'Id' as in this verse:

24. "But as for him who feared the station of his lord, and prohibited his soul from last, verily, paradise is the resort!"

A demonstration of how the 'Super-Ego' acts as a Supervisor is shown in this verse:

25. "Read thy book, Thou art accountant enough against thy self today!"

We already have mentioned the following verse which engulfs an indication to the "Super-Ego"

26. "And every soul shall come -with it a driver and a witness."

The witness here is the 'Super-Ego'. The same thing applies to this verse:

27. "Verily, every soul has a guardian over it."

Conclusion

This is a mere presentation of fact, which if presumably unattended to before, to attract the intention to it.

We are now at threshold of the immense realm of psychology and the allied sciences in the 'Holy Qur'an'; hoping that those who are interested in this particular field will conduct further research to find out other aspects of the 'self'.

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7. Body Built:

Encouraging all sports as swimming, running, horse riding, wrestling.
Discouraging obesity and idleness and big bellies.

8. Maternal and child care:-

Orders to care for pregnant and lactating mothers, and considering care for children equivalent to Jihad "fighting for religion". And death during delivery equivalent to Shihada "death for religion".

9. Occupational Hygiene:

Orders to care for manual workers and servants and treating them well, giving them good housing and enough salaries and wages and medical care.

10. Geriatrics:

Islam was Ist to given orders for care of seniles.

11. Protocol for Practice of Medicine:

- No man should treat a patient unless he is authorized.
- Prayers alone cannot cure disease.
- Patients should consult doctors, etc...

12. Idiological Medicine:

Close connection between ideology of religion and medical orders a sort

of secrecy.

A Moslem cannot pray to his God unless he is cleanly, washing his face, hands, feet, etc....

Throwing garbage in the street, spitting on the floor, micturition in water sources as considered as sins.

This combination between religion and Hygenic orders gives the medical order a kind of scaracy and complete obedience.

These are some aspects of Islamic Medical Constitution. If they are strictly followed in 20th century in any country they will create an ideal healthy society.

Islamic Perspective In Medical Ethics

Shahid Athar, M.D.

Abstract

With the population of Muslims in the USA growing to about 8 million now, and Muslim physicians to about 18,000 American physicians win have to deal with medical ethics concerning their Muslim patients.

The introduction of new technology in medicine in areas of sustaining life support systems, organ transplantation, bio-technical parenting and acquired immune deficiency syndrome, have presented new questions, and affected our outlook in medical ethics. Muslim patients, their families and their physicians need to update their current knowledge and the Islamic perspective in these areas.

An attempt has been made to present the Islamic perspective as mentioned in Quran, the holy book of Islam.

- **Key Words:** Islamic Ethics In Medicine, Euthanasia, Abonion Surrogate Motherhood, AIDS. In the name of God, the beneficent, the Merciful "Blessed be He in whose hands is the Dominion, and he has Power over all things. He who created death and life that He may test which of you are best in deed and He is exalted in might, oft-forgiving". (Quran 67: 1-2)

The introduction of modern medical technology has posed perplexing new questions for Muslims, the answers to which they are still seeking. The Muslim masses are ignorant and naive, behaving like the bird which, fearful of its enemies, buries its head under the sand, thinking that it is safe. Muslims are split in two

groups. One group is educated and modernized and accepts anything that serves science and humanity, irrespective of religious or moral laws that might be broken. The other group of so-called Islamic scholars have knowledge of Islam, but not of medical sciences. They are quick to give their opinion on everything. However, both groups should be reminded that Islam is not a religion of personal opinions.

"It is not fitting for believer, man or woman, when a matter has been decided by God and His Prophet, to have any option about the decision. If anyone disobeys God and His Apostle, he is indeed on a clearly wrong path."(Quran 33:36)

Muslims living in an advanced western society cannot stay aloof from the issues surrounding them. All factors affecting non-Muslims, sooner or later, directly or indirectly, will affect them too. The basic question in medical ethics is "Who is the giver of life and death". Should man control his life and death and that of other humans? Man now "thinks" he can create life or take it away, prolong life (or misery). Are physicians to serve the creations of God, or act as God themselves? Therefore, the Quran reminds man of his lowly origin:

"Does not man see that it is We who created him from sperm. Yet behold! He stands as an open adversary! And he makes comparisons for Us, and forgets his own creation. He says who can give life to (dry) bones and decomposed ones? Say "He will give them life who created them for the first time, for he is versed in every kind of creation." (Quran 36: 77-79)

The Current Medico-Legal And Moral Issues And Their Islamic Perspective

The Right To Live And to Die:

The care of the terminally ill is becoming very expensive. It is costing billions of dollars to keep patients alive in a vegetative state in intensive care units. The concept of euthanasia (mercy killing) is being revived. In 1987, 23,000 cases occurred in Holland. The question is who determines (the unconscious patient, the family, or the doctor) that the plug should be pulled and the life support system should be stopped. What is the definition of death? Is the living will justifiable? Is stopping the life support system an act of mercy, a medical decision, a murder, or just a financial decision?

The Islamic Perspective:

Islam does not believe in prolonging the life as everyone has been created for a life span. Scientists are to assist but not replace God in the creation of death of human beings. The Islamic morality starts in the womb and extends to the tomb. Islam places great emphasis on the sanctity of life and the reality of death.

"If anyone killed a person, unless it is for murder or spreading mischief on earth, it would be as if he killed all of mankind. And if anyone saved a life it would be as if he saved the lives of all mankind". (Quran 5: 35)

"Every soul shall have a taste of death." (Quran 2:35)

"No soul can die except by God's permission." (Quran 3:185)

Thus, while Islam gives importance to saving lives (medical treatment or otherwise) it makes it clear that dying is a part of the contract (with God) and the final decision (of term) is up to God. The quality of life is equally or more important than the duration of living.

My humble suggestion is that the physician and the family should realize their limitations and not attempt heroic measures for a terminally ill patient or to prolong artificially the life (or misery). The heroic measures taken at the beginning of life (i.e. saving a premature baby) may be more justified than at the end of a life span, though each case have to be individualized.

Islam is categorically opposed to euthanasia (mercy killing) and regards it as an act of murder. We do not see the difference between the gun used by a husband for his dying wife and the syringe used by the physician for his dying patient. Both are weapons of death, no matter what the intentions of the killer was.

2. The Organ Transplant

Nowadays many diseased organs are being replaced by healthy organs from living donors, cadavers and from animal source. Successful bone marrow, kidney, liver, comea, pancreas, heart and nerve cell transplantations have taken place. The incidence is limited only by cost and availability of the organs.

The ethical questions are what are the lights of the living donor, the dead body and the recipient. To prolong a life, does the recipient have a right to take away the organs from the dead? Is the sale of organs justified? Is the taking of animal organs justified? Is accepting organs from aborted fetuses justified? Is the cost of transplantation worth the benefit derived from it?

The cost of a heart transplantation alone is \$ 70,000 now, not including long term care. Will harvesting fetal tissues lead to more abortions?

The Islamic Perspective:

The basic question is who owns our organs, we, our relatives, or our creator?

A. Animal to Human: If we can kill them for our food and let their meat become our flesh, why can't we use their cornea to give us eyesight?

B. Living to Living: This is like giving a gift at no cost. The sale is prohibited.

C. Dead To Living: This is not permitted since it involves the desecration of the dead body.

3. The Issues in Abortion:

Currently about 2 million fetuses per year or 4000 per day are aborted in the U.S. The medico-ethical questions are many. Is abortion equal to murder? When is a fetus a living being? What are the rights of the fetus? Who guards those rights? Do both parents (even unwed) have the same rights over the life of the fetus? If life is a gift of God, who are we to take it away? Is killing an infant and the aged and terminally ill the same thing? What should be done with the pregnancy that is the outcome to rape? What is the role of Muslim obstetrician? Is the sale of aborted fetus for transplantation of tissues and organs, or of their delicate skin to make expensive cosmetics justified?

The Islamic Perspective:

Islam considers abortion of a viable fetus an infanticide except when to save the life of the mother. Even in this situation every attempt should be made to save both lives. The fetus is alive as a cell from the very beginning, with shaping starting at 4 weeks and movements at 4 months. According to Hadith at 120 days the angel visits the fetus and blows the spirit into it. This coincides with starting of the baby's first movement. The viability of the fetus medically has improved with the development of neonatology. The smallest infant, weighing 4 oz at 3 1/2 months, was saved.

The Quran refers to abortion in many places:

"Kill not your children for fear of want. We shall provide sustenance for them as well as for you. Verily the killing of them is a great sin." (17:31)

"Kill not your children on a plea of want. We will provide sustenance for you and for them. Come not near shameful deeds whether open or secret. Take not life which God has made sacred except by way of justice and law. Thus He commands you that you may learn wisdom." (6:151)

"The pledge of the believing women that they shall not kill their children." (60:02)

"And when the female infant who was buried alive is asked for what crime she was killed?" (81:2)

The pagans of today, the liberated woman, are not killing their infants for fear of want, or for the shame of the birth of a girl, but rather to enjoy the life of sexual freedom. To them God reminds:

"Such as took their way of life to be mere amusement and play and were deceived by the life of this world. That day we shall forget them as they forgot the meeting of this day of theirs and as they were bent upon rejecting our signs." (7:51)

4. Issues In Bio-Technical Reproduction

Infertility and the desire of a couple to have a child of their own is not a new problem. However new techniques to solve this have added a new twist. Now we have successful technology to fertilize an egg outside the uterus (test tube babies) and inject sperm into the uterus from the husband or a surrogate male donor, take the ovum of a woman and fertilize it with the sperm of her husband and inject it into the uterus of another woman for incubation.

The questions are:

A. Is marriage a legal contract between a man and a woman or is it a sacred covenant between the two, and God is the witness of such?

B. Was the child born of an intact legal marriage or outside the marriage?

C. In the case of the surrogate father, who is the real father and does the child have the right to know who he is?

D. In case of the surrogate mother, who is the real mother, the one whose ovum is being used, or the one who lets her uterus be used.

E. Is renting a uterus for this purpose allowed or justified?

F. A woman married or single can technically have one child per month if she lets her ovum be fertilized by different sperm incubated each month in a hired uterus. This will save her the pains of pregnancy, labor and lactation. Is this right?

The Islamic Perspective:

In Islam the marriage of a man and a woman is not just a financial and physical arrangements of living together but a sacred contract, a gift of God, to enjoy each other physically and continue the lineage.

"And God has created for you consorts from amongst yourselves, and out of your consorts He created children and grandchildren for you, and provided you out of His bounty. Will they then believe in vain things and be ungrateful to God's favor?" (16:72)

"Among His signs is that He created consorts for you amongst yourselves, so that you may find tranquility with them, and He set love and compassion between you. Verily in this are signs for people who reflect." (30:12)

The Prophet (SAW) has emphasized marriage by saying: "Marriage is my tradition. He who rejects my tradition is not of me." In fact he described marriage as half of religion, the other half being God fearing.

Therefore violation of this sacred contract of marriage by a biomedical technique is violation of Islamic law:

Some prophets were childless and asked God to give them children (ref Quran 19:2-7 and 21:89-90 for the prayers of Zakariya and 51:28-39 for the story of Abraham and Sarah). Therefore it is justified to seek parenthood in a legitimate way and still recognize who controls it.

"To Allah belongs the dominion of the heavens and earth. He creates what He wills, He bestows female upon whom He wills, and He bestows males upon whom He wills. For He is all knowledgeable, all powerful." (42:49-50)

This bio technical parenting is only allowed if it is the product of an intact marriage i.e. during the life span of marriage. Artificial insemination using the husbands sperm, fertilized in the uterus of the wife or the test tube is allowed.

Surrogate motherhood is not acceptable because of two questions:

- A. Who is the mother?
- B. There is a question of lineage.

"None can be their mother except those who gave birth." (58:2)

Recently a mother kept an embryo fertilized by her daughter and her son-in-law and gave birth to her son/or grandson.

"It is He who created man from water, then has He established the relationship of lineage and marriage, for your Lord has power over all things." (25:54)

Islam recognizes the sacredness of the womb (uterus).

"O mankind! Revere your Lord who created you from a single person and created, of like nature, his mate, and from them twain scattered (like seeds) countless men and women. Revere God through whom you demand your mutual rights and (revere) the womb (that bore you), for God ever watches you. (4:1)

5. The Ethical Questions About AIDS Patients.

AIDS is spreading like the plague. About 52,000 cases have been reported in the USA alone, half of whom have already died. One case is being reported every 14 minutes. 700,000 Americans carry the virus and CDC officially estimates that 1.5 million are infected. It is projected that 365,000 active cases will never be reported in the USA by 1992. According to Dr. James Curran of The Centre for Disease Control in Atlanta the figure may be as high as 440,000. You don't have to be homosexual to get AIDS, through sexual transmission and sharing the needle in IV drug users is the main mode of transmission. 18,000 hemophiliacs, have AIDS now due to blood transfusions. 15% of all AIDS victims are women and about 540 children are reported to have the infection. The spread of AIDS is changing the sex life style of single women, and men. AIDS has been reported in 112 countries. Next to the USA, the highest numbers in the western countries are France, West Germany and Britain.

The economics of AIDS are startling. in the USA, the medical care cost of AIDS will rise from \$ 1.8 billion in 1986 to \$ 8.5 billion in 1991, the research, education and screen from \$ 542 million to \$ 2.3 billion and a total cost from \$ 7 billion to \$ 55.6 billion.

The Ethical Questions Related To The Care of AIDS Patients Are:

1. Who will pay for the cost of AIDS cases since insurance companies will not insure them?
2. Should AIDS patients be quarantined and forced to change their lifestyle?
3. Should IV drug users be given free clean needles, syringes and drugs?
4. Should HIV positive carriers carry an ID card?

5. Should someone be tested for HIV without his knowledge and what should be done with positive results?
6. Does paying for AIDS cases by the public or the government mean that they endorse the lifestyle of the patients?

The Islamic perspective, though not clearly defined, would be in the prevention of the disease and after its occurrence treating it like any other disease, i.e. tuberculosis, syphilis, or small-pox. We never question the lifestyle of patients with other common diseases i.e. diabetes, hypertension, coronary heart disease in terms of discriminating them or restricting their care. AIDS may be "a wrath of God" because of certain lifestyle which should be discouraged but many "innocent" people are being affected without being their fault. Therefore, they should not be penalized. In each community every attempt should be made to prevent the spread of the disease but once it has affected an individual full attention and care be given to lessen his/her suffering and maintain the dignity and quality of life.

Conclusion:

I have tried to present the situation of ethics as it is being practiced with questions for those involved. I have not attempted to give detail account of each biomedical techniques. I am sure most of the readers, medical or non- medical have some knowledge in this area. With 8 million Muslims in the USA and 18,000 Muslim physicians populated here, it will be wise that non- Muslim physicians, clergy and law makers become acquainted with Islamic perspective in medical ethics. I strongly recommend that in each institutions dealing with question of life and death, a local Muslim physician be on the medical ethics committee.

Acknowledgement:

The author wishes to thank K.C. Khemka, Phd and Robert D. Robinsons, M.D. for reviewing this manuscript.

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"Effects Of Prohibited Foods, Intoxicants, And Ingredients On Human Hormones And Behavior"

Shahid Athar, M.D.

Quranic Prohibitions:

FOOD:

2: 173

“He has forbidden you dead meat, and blood, and flesh of swine , and on which any other name has been invoked besides that of Allah. But if one is forced by necessity without willful disobedience, nor transgressing, due limits.... than he is not guilty, for Allah is forgiving, merciful.”

5:4

" Forbidden to you are: Dead meat, blood, the flesh of swine and that on which has

been invoked a name other than Allah's, and that killed by strangling, or by a violent blow, or by a headlong fall, or by being gored to death:

That which has been eaten by a wild animal: Unless you are able to slaughter it, that which has been sacrificed on stone: (forbidden) also is the divination of arrows: that is impiety.

6:145

"Say: I find not in the Message received by me by inspiration any meat forbidden to be eaten by one who wishes to eat of it, unless it be dead meat, or blood poured forth, or the flesh of swine, for it is an abomination, - or what is impious, (meat) on which a name has been invoked, other than God's. But even so, if a person is forced by necessity without wilful disobedience, nor transgressing due limits, - Your Lord is Oft-Forgiving , Most Merciful."

16:115

"He has-only forbidden you dead meat, and blood; and the flesh of swine, and any (food) over which the name of other than God has been invoked. But if one is forced by necessity without wilful disobedience, nor transgressing due limits, - Your Lord is Oft-Forgiving , Most Merciful."

INTOXICANTS: 2:219

"They ask you concerning wine and gambling. Say: "In them there is great sin, and some profit, for men, but sin is greater than the profit."

4:43

"O you who believe! Approach not prayers, with a mind befogged, until you can understand all that you say."

5:90

"O you who believe! Intoxicants and gambling, (dedication of) stones, and (divination by) arrows, are an abomination of Satan's handiwork. Avoid such (abomination) that you may prosper."

5:91

"Satan's plan is to sow enmity and hatred among you with intoxicants and gambling, and to hinder you from the remembrance of Allah and from prayer. Will you not then give up."

PROPHET MOHAMMED (PBUH) ON THE SUBJECT OF LAWFUL AND PROHIBITED.

1. "That which is lawful is plain and that which is unlawful is plain and between the two of them are doubtful matters about which many people do not know. Thus he who avoids doubtful matters clears himself in regards to his religion and his honour, but he who falls into doubtful matters falls into that which is unlawful." (narrated by Abu Abdullah An Numan Bin Bashir-R.A. Reported in Bukhari and Muslim.)

2. "Allah the Almighty has laid down religious duties, so do not neglect them; He has set boundaries, so do not cross them; He has prohibited some things, so do not violate them; about some things. He was silent out of compassion for you, not due to forgetfulness-, so do not seek after them."

(narrated by Abu Tbalaba Al Khushani Jurhum Bin Nashir-R.A.reported in Ad-Daraqutni.)

3. "Allah the Almighty is pure and accepts only that which is pure. Allah has asked the believers to do that He asked the messengers, and the Almighty has said: (23:5 1) "O you messengers! Eat of the pure things and do right." And Allah the Almighty has said: (2:172) "O you who believe! Eat of the pure things that we have provided you." Then the Prophet (pbuh) gave example of a man tired and dusty after a long journey, raises his hands to the sky and says: "O Lord! O Lord!"

While his food is unlawful, his drink is unlawful, his clothing is unlawful, and he is nourished unlawfully, so how can his prayers be answered?"

(Narrated by Abu Huraira-R.A. reported in Muslim.)

INTRODUCTION:

It is not required of the believer to always find a scientific justification for the divine prohibitions. However,

if they look and find it, they must share the information, that will increase their faith. To the contrary, lack of confirmation should not question the authenticity of the Quran. We believe that all Quranic statements are true, and if science has not confirmed some of them yet, it will do so in the future, maybe it needs to examine its data more deeply or repeat the experiment.

For the benefits of non-medical readers, before I describe the topic in question i.e. hormonal and behavioral effect of prohibited food, intoxicants and ingredients, I must define some medical terms and inter-relationships:

HORMONES:

These are the powerful secretions of Endocrine (internal) glands. They control the functions of all organs, and even individual cells. They are made from proteins (peptides) or sterols in nature. The endocrine glands are hypothalamus which secretes various releasing hormones for pituitary, and pituitary which secretes hormones for target endocrine glands. Both of them are inside the brain. Target endocrine glands are thyroid hormones. Thyroid hormones control our metabolism, energy level, and temperature tolerance.

Behind them are para-thyroid gland which control our calcium metabolism. In the abdomen are adrenal glands above the kidneys which secrete cortisone, the life saving essential hormone, and catecholamines and aldosterone which control our blood pressure and heart-rate. Steroids and catecholamines are derived from cholesterol. Also in the abdomen is the pancreas which secretes insulin which lowers blood sugar, and glycogen which raises a low blood sugar. Lower down in the pelvis are gonads, ovaries in women, and testes in men, which secrete estrogen, progesterone and testosterone respectively. All these hormones have internal control, and influence each other. They control our growth, muscle mass, bone development, temperature tolerance, blood pressure, energy, fertility, sex desire, thirst, and well being in general.

HOW DO HORMONES AFFECT BEHAVIOR:

The site of secretion of releasing hormone, and of neurotransmitter in the brain are the same in the hypothalamic area. Most of the psychotropic drugs either act by increasing or decreasing the neurotransmitter levels i.e. epinephrine,

norepinephrine, serotonin, dopamine or endorphin level in the hypothalamic area. Similarly, neurotransmitters influence hormone secretion.

Clinically we see various behavioral manifestations in endocrine disorders. Hypoglycemic patients (low blood sugar) suffer from depression and poor mental concentration and patients with low thyroid have impotency and depression, while patients with high thyroid have agitation, irritability, and lack of sleep. Patients with low cortisone (Addison Disease) have severe depression while with high cortisone have hallucination and psychosis. Patients with high testosterone have been claimed to have criminal tendencies (i.e. rapists) while low testosterone have behavioral problems in adjustment. Patients with calcium changes.

Physiologically, boys and girls are different in playing behavior i.e. aggressive versus passive (playing with mechanical toys and guns versus dolls) due to difference in their sex hormone even in pre-pubertal age. This becomes more obvious after full sex differentiation takes place. In fact, by changing the sex hormone level of a given sex one can change not only the sexual behavior but the aggressiveness of a particular sex. Homosexual males have been noted to have less male sex hormones, and on the other hand, repeated sex offending males can be "cured" by castration or by the injection of the female hormone progesterone. In one experiment, female rats whose mothers were treated with testosterone while pregnant showed male behavior pattern of threatening peer, rough play, and increased sexual activity as compared to a control rat. This shows that testosterone not only affects the individual, but the offspring as well. Girls with congenital adrenal hyperplasia (excessive testosterone secretion) when in post puberty age show tomboy attitude with liking rough sports, preferring boys as playmates, and low interest in dolls and baby care. Sexual behavior is not only affected by testosterone, but also by the pineal gland which is turned off and on by light and darkness.

Hormones, not directly but indirectly by controlling sugar, calcium, sodium balance, affect behavior in general to include anger, love, anxiety, panic attacks, and agitation. The hyperactivity in children could be due to low blood sugar or due to many food preservatives and coloring agent like nitrites, and Dye No. 5.

After this much introduction of hormones, and behavior, I turn to the main theme.

HORMONAL AND BEHAVIORAL EFFECT OF PORK MEAT AND FAT INGESTION:

Pork meat and fat are not only prohibited to Muslims, but were also prohibited to Jews and Christians as well because "Swine were designed to be scavengers, to eat up filth." In old testament Leviticus Chapter 7-8, it is mentioned about swine " Though he divides the hoof and be cloven footed, yet he cheweth not the cud, he is unclean to you. Of their flesh shall you not eat." There is no mention in the Bible that Jesus ever ate pork in his life. It was Paul who declared all food and drink permissible saying, "To the pure, everything is pure."

THE LIFE OF THE SWINE:

To get a first hand idea, I interviewed farmers of Fisher, Indiana, who breed swine. According to them "Swine is cheaper to breed, since it does not require pasture, it can live on manure and other such items including dead meat. In fact, it can even eat its own feces. Their sexual habits are also different from other animals like cow, sheep and goat. Swine have very little shame i.e. engage in sex acts anytime

anyplace. The female hog is very aggressive in sexual activities when she is in "heat" she does not care about anything (i.e. food or privacy) until she has the sex. They i.e. swine, also lick the genitals of their partners after sex like dogs, but not other mammals like cow, sheep or goat."

WHY IS PORK FAT DIFFERENT FROM OTHER ANIMAL FAT:

Fats are lipids which are a source of energy. They can be of vegetable source or of animal source. Triglycerides are neutral fats with 1 molecule of glycerol and three fatty acids. The fatty acids can be saturated or unsaturated. The more unsaturated fats have high melting points. The iodine value of fat gives the degree of unsaturation. The iodine value of lard is 65, beef 45, and mutton 32. After ingestion, emulsification of fat takes place in the stomach by gastric lipase. By pancreatic lipase hydrolysis of triglyceride into glycerol and fatty acids takes place. The fatty acids and glycerol are used by various tissues like muscle, heart, kidney, and liver for an energy source. Herbivorous (plant eating) animals have unsaturated fatty acid on the position 2 of the triglyceride (tg) molecule, while the carnivorous (meat eating) animals have saturated fatty acid at the position 2. Pancreatic lipase (pl) can not hydrolyze TG molecule if saturated fatty acid at position 2. Fat of dogs, rats, cats, and pork, have saturated fatty acids on positions 2. If a person eats fat of herbivorous animal, the fat will be hydrolyzed, absorbed, and then re-synthesized and stored as human fat, while that of carnivorous animals and pork fat will not be hydrolyzed and therefore has to be deposited in humans as pork fat in the adipose tissue.

WHAT HAS DEPOSITION OF PORK FAT TO DO WITH HORMONE AND BEHAVIOR IN HUMANS:

Circulating hormones are in bound form and free form. The free form has to be attached to receptor in fat tissue before becoming active. Obesity decreases the number of receptors therefore the hormones cannot be utilized. Therefore, if the hormone is insulin, it leads to diabetes (type 2); and if it is testosterone, it leads to sub fertility and amenorrhea. The amount of fat also controls hormone release. Therefore we see menarche is delayed in athletic girls with less fat, and occurs early in sedentary overweight girls.

It can be postulated that in humans who have pork fat deposit there is derangement in the binding of hormones, therefore they have a higher level of circulating active hormone. It is possible that the sexual promiscuity and deviant sexual practices of pork eating society is due to what they eat! After all, it has been said by nutritionists, "You are what you eat."

Since this is a paper on hormones and behavior, the time does not permit discussing the effect of pork on cholesterol, sodium and the relationship to heart disease.

EFFECTS OF DEAD MEAT AND BLOOD INGESTION:

Dead meat is the meat of animal which died before slaughtering and blood could not flow out, and blood ingestion is not only the drinking of blood as it was prevalent in the Jahiliya of Arabia or even now in Africa (and in France) but also the blood which is retained inside the meat by improper killing of the animal. All hormones, and antibodies are retained in the blood, and all infective organisms including virus flourish in the blood media, therefore ingestion of such will be dangerous medically. It may also induce animal instincts as seen in carnivorous animals like dogs, cats, and lions.

HORMONAL EFFECTS OF ALCOHOL:

Both in acute and chronic alcoholism, endocrine glands are affected.

Hypoglycemia is a manifestation of acute alcoholism which may be severe, and can lead to coma.

This should be recognized and treated with dextrose intravenously since it may not respond to glycogen. Low magnesium with resultant low calcium is another effect resulting in poor concentration, muscle twitching and even seizure. Increase in urine flow is due to depression of antidiuretic hormone.

Chronic alcoholism leads to pancreatitis with failure of pancreatic endocrine system (sometimes Diabetes) and exocrine gland (malnutrition). This leads to protein deficiency leading to reduced production of testosterone, which may lead to impotency, gynecomastia in men and amenorrhea in women. Alcoholics can also have a pseudo (false) cushing syndrome. Alcohol related liver disease causes increased clearance of testosterone with testicular atrophy leading to true hypogonadism. Sperm formation is also affected leading to infertility. Infants born to an alcoholic mother can also have undescended testes and labial hypoplasia. In addition, the cortisol levels are increased during withdrawal, while LH and LH-RH levels are suppressed during chronic alcoholism.

BEHAVIORAL EFFECTS OF ALCOHOL:

Alcohol, being a central nervous system depressant, depresses both facilitatory and inhibitory pathways. It is the suppression of the latter that abolishes the shame and removes control. Therefore, what a normal person will be prevented from doing i.e. abusive language, undressing in public, etc. will not be prevented under the influence of alcohol. There are more serious behavioral disorders described to

include brain disjunction in 50- 70%, memory loss, depression both acute and chronic, high suicide rate, mood fluctuation, delirium tremor (DTS) in withdrawal state, and blackout spells during drinking. One-third of all auto accidents are due to alcoholism. Under the influence of alcohol are mental judgement and motor skills, which are both affected. Sometimes the level of consciousness is also affected. Alcohol had been found to be at the root of family violence, sexual violence, rape, assault, and child abuse.

Alcohol is not an aphrodisiac, as it is claimed. Not only does it depress the central nervous system's effect on the libido, but actually lowers the penile blood flow and tumescence (swelling) thereby decreasing the performance.

EFFECTS OF NARCOTICS (COCAINE & MARIJUANA) ON HORMONES AND BEHAVIOR:

Both LSD and cocaine cause decreases in plasma testosterone and LH. The aphrodisiac effect is due to local anesthesia causing prolonged erection and central stimulation causing general well being. Also by inhibiting the inhibitions, they encourage engagement in unusual sex acts like sodomy or oral genital sex.

Psychologically they cause mood elation and a false sense of euphoria followed by depression, anxiety and agitation. Panic attacks, suicidal tendencies, and violent behaviors are not uncommon. Chronic usage may lead to schizophrenia, paranoia, and a variety of psychiatric disorders, even infants born to cocaine addicted mothers show signs of withdrawal.

EFFECTS OF INGREDIENTS ON HORMONES AND BEHAVIOR:

If ingredients are of prohibited nature, i.e. pork, lard, alcohol, cocaine etc., the effect will be as described earlier, though because of the small quantity, the effect will be slow and may be cumulative.

More serious are items like sugar which causes reactive hypoglycemia; sodium which may lead to hypertension; DES (Diethylstilbestrol, a female hormone given to cattle and chickens to increase fat and muscle content) linked to vaginal and cervical cancer in women; and artificial sweeteners like saccharine related to bladder cancer in rats, and aspartame related to brain damage.

CONCLUSION:

More research is needed on all of the above areas, especially those affecting the life style of Muslims. Though usage of prohibited items are not commonly found in Muslims, the dangers also may come to their health and spirits by the effects of non-prohibited items like western rock music, dress (i.e. tight jeans affecting testicular temperature) and sexual practices, and cigarette smoking.

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Sex Education For Muslim Youths And Their Parents

Dr. Shahid Athar

Abstract

Sex Education of children and youth is a sensitive but important aspect of their learning. At present Muslim children are getting secular sex education at schools and getting, the wrong messages from the media. In this article pro and con of American sex education and Islamic concept of sexuality and marriage are discussed. Finally a curriculum is proposed for Islamic sex education to be given at home or Sunday Islamic school.

Key Words: Sex Education, Teenage Pregnancy, Sex in Islam and Marriage.

In The Name of Allah, Most Kind, Most Merciful

Allah says in Quran:

"Say: Are they equal to those who know, and those who do not know?"

Prophet Mohammad (PBUH) has said:

"Blessed are the women of the Ansar (citizens of Medina). Shyness did not stand in their way seeking knowledge about their religion"

Although Quran has given so much emphasis on acquiring, knowledge, and in the days of Prophet Mohammed (PBUH) Muslim men, and women were never too shy to ask him questions including those relating to private affairs such as sexual life, for Muslim parents of today sex is a dirty word, they feel uncomfortable in discussing sex education with their children, but do not mind the same being taught at their school, by secular or non-Muslim teachers (of even opposite sex), by their peers of either sex, and by the media and television, (an average child is exposed to 9,000 sexual scenes per year). These parents should know that sex is not always a dirty word. It is an important aspect of our life. Allah who cares for all the aspects of our life, and not just the way of worshipping Him, discusses in Quran, reproduction, creation, family life, menstruation and even ejaculation. And Prophet Muhammed (PBUH), who was sent to us as an example, discussed with his companions many aspects of their sexual life including sexual positions. The main reason Muslim parents do not or cannot discuss sex education with their children is because the way they have been brought up, ignorant and maybe they are not comfortable with their own sexuality or its expression. They leave Islamic Education to the Sunday school, and sex education to the American schools and the media.

What Is Sex Education And Who Should Give It?

Is sex education about knowing the anatomy and physiology of human body, or about the act of sex, or about reproduction and family life, or about prevention of sexually transmitted diseases and unwanted pregnancy? Is giving sex education equal to giving permission of engaging in sex? One sex educator at my son's school told the parents "I am not planning to tell your children whether or not they should not engage in sex, or how to do it but in case they decide to do it they should know how to prevent sexually transmitted diseases and pregnancy". At present the sex education is incomplete as it does not cover the morality associated with sex, sexual dysfunctions and deviations and the institution of marriage.

One of the basic questions is , do children need sex education? Do you teach a duck how to swim or just put it in water and let it swim. After all, for thousands of years men and women are having sex without any formal education. In may

traditional civilizations, sex education starts after the marriage with trial and error. Some couples learn it faster than others and do it better than others, due to difference in sexual perception and expression of one partner. In my opinion having dozen children is not necessarily a proof of love. An appropriate and healthy sex education is crucial to the fulfillment of a happy marriage.

With regards to the questions who should impart sex education, I believe everyone has to play his or her role. The parent as a whole have to assume a more responsible role; especially the father has a duty to be able to answer his son's questions and the mother to her daughter's. We can hardly influence the sex education at school or by the media which I call "VD- AIDS And Teenage Pregnancy Education", but we can supplement that with some ethical and moral dimension and add family love and responsibility. Apart from these sources, some role can be played by Sunday school teachers, the family physician, the pediatrician and the clergy. Within a family the elder sister has a duty towards the younger one and the elder brother has for the younger one.

Sex Education In American Schools

In every American school, public or private, sex education is being given from grade 2 to 12. The projected 1990 cost to the nation will be \$2 Billion per year. Teachers are told to give the technical aspects of sex education without telling the students about moral values or how to make the right decisions. After describing the male and female anatomy, and reproduction, the main emphasis is on the prevention of venereal diseases and teenage pregnancy. With the rise of AIDS, the focus is on "Safe Sex" which means having condoms available each time you decide to have sex with someone you don't know. With the help of our tax dollars, about 76 schools in the country have started dispensing free condoms and contraceptives to those who go to school health clinics. Very soon, I can foresee there will be vending machine in the school hallways and "children" could get one condom each time they need to engage in sex. The role of parents is minimized by American sex educators and sometimes ridiculed. In one of the sex education movies I was made to watch as a parent at my son's school "Am I Normal?", the young boy whenever he asks a question about sex to his father, the father (is shown as a bum and a slob) shuns him away and diverts the topic. Finally the boy learns it from a stranger, and then is shown going into a movie theater with his girlfriend.

The secular sex education devoid of morality promoted by educators like Dr. Sol Gordon is in many ways unacceptable to our value system. The examples of Dr. Gordon's beliefs are:

a. Nudity in homes (in shower or bedroom) is good and a healthy way to introduce sexuality to smaller (under 5) children, giving them opportunity to ask questions. In the same book he also states that 75% of all child molestations and incests (500,000 per year) occur by a close relative (parent, step parent or another family member) in a familiar surrounding.

b. A child's playing with genitals of another child is a "naive exploration", is permissible and not a reason for scolding or punishment. He is also aware that boys as young as 12 have raped girls as young as 8. He does not tell us when this "naive exploration" becomes a sex act.

c. "Children caught reading 'dirty' magazines should not be made to feel guilty, but parents should use it as a chance to get some useful points across him or her about sexual attitudes, values and sex exploitation." Like charity, pornography, should start at home!!

d. " If your daughter or son is already sexually active, instead of telling them to stop it, the parents moral duty is to protect their health and career by providing them information and means for contraception and avoiding VD". Educators like Dr. Gordon do not believe that giving sexual information means giving the go ahead signal for sex. I just wonder as to why some folks after being, told the shape, color, smell and taste of a new fruit, and pleasure derived from eating it, would not like to try it? These educators say that even if your child does not ask any questions about sex, parents should initiate the discussion using i.e. a neighbor's pregnancy, a pet's behavior, advertisements, popular music or a TV show. I wonder why these educators are obsessed with loading children with sexual information whether they want it or not.

The More They Know It - The More They Do It

The sex education in American schools has not helped decrease in the teenager the incidence of VD or teenage pregnancy. This is because it has not changed their sex habits. According to Marion Wright Elderman President of Childrens Defense Fund in a recent report, "out of every 20 teens, 10 are sexually active but only 4 use contraception, 2 get pregnant and one gives birth. In 1982, John Hokins study found one out of every five 15 year olds, and three 16 year olds are sexually active . The incidence increased to 43% in 17 year olds, 46% of 16 year olds, 29% of 15 year olds were sexually active . Now it is estimated that about 80% girls entering college had sexual intercourse at least once. Going to church does not help either. Some 1400 teenagers, mostly white, attending conservative Evangelical Church were sent questions about their sex life. 26% of 16 year olds, 35% of 17 year olds, and 43% of 18 year olds said they had sexual intercourse at least once. 33% that responded also said sex outside of marriage was morally acceptable.

Hazards of Early Sex

The health hazards of early sex include sexual trauma, increase in incidence of cervical cancer, sexually transmitted diseases and teenage pregnancy.

A variety of injuries are possible and do happen when sex organs are not ready for sex in terms of full maturation. Some of these injuries have a long lasting effect." Cervical cancer has been thought to be related to sex at an early age and with multiple partners. Dr. Nelson and his associates in his article of epidemiology of cervical cancer calls it a sexual transmitted disease."

Teenage Pregnancy

About one million or more teenage girls become pregnant every year, 80% of them are unmarried. Out of this I million, about 500,000 decide to keep their baby, and 450,000 are aborted (or ? murdered), 100,000 decide to deliver and give the baby for adoption. In 1950 the incidence of birth from unmarried teenagers was only 13.98%, but in 1985 it increased to 59%. It is a myth that teenage pregnancy is a problem of black and poor. To the contrary 2 out of 3 teens getting pregnant now are white, suburban and above the poverty income level. The pregnancy rate (without marriage) in 54,000 listed Navy women is 40% compared to 17% to general population. What is the life of those who have teenage pregnancy? Only 50% complete high school, more than 50% of them are on welfare. They themselves become child abusers, and their children when grown up have 82% incidence of teenage pregnancy. 8.6 billion dollars are spent every year for the financial support and health care of teenage mothers.

The sexual revolution of 60's has affected another dimension of health care. In 1985 alone , 10 million cases of chlamydia, 2 million gonorrhea, 1 million venereal warts, 0.5 million genital herpes and 90,000 syphilis cases were diagnosed." The plague of AIDS" is adding a new twist to our fears. About 52,000 cases have been diagnosed in the USA alone and 50% of them have already died. The disease is growing at a rate of one case every 14 minutes," and so far there is no good treatment. Father Bruce Ritter of New York, who operates shelters for runaway children, says the biggest threat to the Nation's 1 million runaway is the threat of AIDS now.

There are many reasons children get involved in sex". Most common being the peer pressure. Their common response is "since everybody is doing it". One of the reasons is their desire for sexual competence with adults and a way to get ahead. Another common reason is their lack of self esteem which they want to acquire and improve by becoming a father or mother. Sometimes it is due to lack of other alternatives to divert their sexual energies. It could also be due to lack of love and appreciation at home. Detachment from home can lead to attachment elsewhere.

The sexual pressure on them is everywhere, at school from their peers, from the TV where about 20,000 sexual scenes are broadcasted annually in advertisement, soap operas, prime time shows and MTV. The hard core rock music nowadays fanned the flames of sexual desires. Most of the parents do not know what kind of music their children are listening. If they care, and listen to hard rock songs, they will know what they are singing some of these songs that have pornographic words and sentences which made Kandy Stroud, a former rock fan, beg parents to stop their children from listening to what she calls "Pornographic Rock". Music affects our mood by activating Melantonin, the hormone from the pineal gland in the brain which is turned on by darkness, turned off by flashing light. It is the same gland which has been thought to trigger puberty, and affects reproductive cycle, and sex mood.

What Is The True Role Of Parents?

For their failures (i.e. teenage pregnancy), the American educators are putting the blame, as usual, on the parents. In fact in Wisconsin and many other states the grandparents of a baby born to a teenager are responsible for the financial support of the child. Remember parents are not needed if their teenage daughter needs contraceptives or abortion. Faced with such hypocrisy, the parents job is to instil in their teenagers mind what is not taught in sex education classes i.e. reason not to engage in sex, reason not to get pregnant etc. At the same time, they should divert their energies to some productive activities like community work, sports, character growth, or Sunday schools. Another role of parents is to help their children make the right decisions. In Islam anything which leads to wrong is also wrong. Therefore parents should control the music children are listening, the TV program they are watching, the magazines they are reading, and the dress (which may provoke the desire in the opposite sex) they are wearing. While group social activity should be permitted within supervision, dating should not be allowed. When American teenagers start dating, sex is on their mind.

In fact 25% of college freshman boys during a survey responded by saying that if they have paid for the food, and the girl does not go all the way, they have a right to force her to have sex. Many of the rapes occur at the end of the date and are not reported. Anything which breaks down sexual inhibition and loss of self control i.e. alcohol, drug, petting or just being together for two members of the opposite sex in a secluded place should not be allowed for Muslim teenagers. Kissing and petting is preparing the body for sex. The body can be brought to a point of no return.

In summary, the Muslim parents should teach their children that they are different from non-Muslims in their value system and way of life. Having a feeling and love in your heart for someone else of the opposite sex is different and beyond check,

while expression of the same through sex is entirely different and should be under control. Muslim children should be told that they don't drink alcohol, eat pork, take drugs, and they don't have to engage in pre-marital sex either.

Islamic Concept Of Sexuality

Islam recognizes the power of sexual need, and the subject is discussed in Quran and the saying of Prophet Muhammed (PBUH) in a serious manner, in context with the marital life and family life . Islam does not consider women (or men) an object of sexual pleasure but with a legal frame work of relationship fulfilling the will of God. While the sex outside marriage is a punishable sin, sex with one's spouse is an act of worship. The Islamic laws regarding sex are fixed and do not change with peer pressure or changing values of society. Virginity at the time of marriage is considered a virtue in Islamic morality, but a disadvantage in the West. No wonder less than 10% of American brides are virgin.

Mention Of Creation, Reproduction And Sex In The Quran

1. "Did We not create you from a sticky fluid?, Which We laid up in a safe abode, for a known term. Thus We arranged, how excellent is Our arrangement".
2. "So let man consider from what he is created. From a gushing fluid that issues between the lion and the ribs.
3. "Verily We created man from a product of wet earth, then placed him in a drop in a safe lodging, then We fashioned the clot into a little lump, then We fashioned the lump into bones, then We clothed the bones with flesh, and then produced it as another creation. So blessed be Allah, the best of creators". Commentary: The seminal fluid has all the ingredients (protein, carbohydrate, minerals) as earth has. The order of embryology given 1400 years ago when no microscope, X-ray of ultrasound were available is the same as discovered now. Western scientists recognized sperm in 17th century and thought it to be a miniature pre-formed man".
4. "Your women are a tilth for you, so enjoy your tilth the way you wish, and make an introduction to yourself.

Prophet Muhammed (PBUH) said:

1. "When one of you have sex with your wife it is a rewardable act of charity". The companions were surprised and asked, "but we do it out of our desire, how can it be counted as a charity?". The Prophet replied "if you had done with a forbidden women, it would have been counted as a sin, but if you do it in legitimacy it is counted as a charity?".

2. "Let not the one of you fall upon his wife like a beast falls. It is more appropriate to send a message before the act" .
3. "Do not divulge secrets of your sex with your wife to another person, nor describe her physical feature to anyone".

Concept of Adultery (Fornication or Zina) in Islam

Allah says in Quran:

- 1."Do not come near to adultery. Surely it is a shameful deed and Evil, opening roads to another evils ".
2. "Say: Verily, my Lord has prohibited the shameful deeds, be it open or secret, sins and trespasses against the truth and reasons".
3. "Women impure are for men impure, and men impure are for women impure and women of purity are for men of purity, and men of purity are for women of purity".

Prophet Muhammed (PBUH) has said on many places against adultery as one of the three major sins. However the most interesting story is that of a younger man, who came to him and asked his permission for fornication, since he could not control himself. The Prophet dealt with him with reasoning and asked him if he will approve of someone else doing illegal sex with his mother, sister, daughter or wife. Each time the man said 'no' then the Prophet replied that the woman with whom you plan to have sex could also be somebody's mother, sister, daughter or wife. The man understood and repented. The Prophet prayed for his forgiveness.

Adultery is a crime not against one person but against the whole society. It is a violation of marital contract. 50% of all first time marriages in this country result in divorce in 2 years, and the main reason for divorce is extra- marital affairs of either husband or wife. Adultery which includes both pre- marital and extramarital sex is an epidemic in this society. Nobody seems to listen to the Bible which says frequently "Thou shalt not do adultery". The Quranic approach "Do not approach adultery" is more sensible. What it means that not only illegal sex is prohibited, but anything which leads to illegal sex is also illegal. These things include dating, free mixing of sex, provocative dress, nudity, obscenity and pornography. The dress code both for men and women is to protect them from temptation and desires by onlookers who may lose self control and fall into sin.

"Say to the believing men, that they should lower their gaze and guard their modesty; that will make for greater purity, and God is well acquainted with all

they do". "And say to the believing women that they should lower their gaze and guard their modesty. ...".

Concept of Marriage In Islam

Islam recognizes the strong sexual urge and desire for reproduction.

Thus Islam encourages marriage as a legal sexual outlook and as a shield from immorality (sex without commitment).

In Islam the marriage of a man and woman is not just a financial and legal living arrangement, not even just for reproduction, but providing with a total commitment to each other, a contract witnessed by Allah.

Love and joy of companionship is a part of the commitment. A married couple assumes a new social status and responsibility for himself, his wife and his children and for the community.

Allah says:

"Among His signs is that he created consorts for you from among yourself, so that you may find tranquility with them, and (He) set love and compassion between you. Verily in this are signs for people who reflect."

Prophet Muhammed (PBUH) said:

- I. "Marriage is my tradition. He who rejects my tradition is not of me".
2. "Marriage is half of the religion, the other half is being God fearing".

In Islam there is no fixed rule to the age of marriage. It is becoming fashionable for Muslim young men not to marry until they have completed their education, have a job, or reached age 26-30 or more.

Similarly Muslim young girls say they want to marry after age 24 - why? When asked, they would say "I am not ready for it" - not ready for what? Don't they have normal sexual desire? If the answer is, yes, then they have only one of the two choices (a) marry or (b) postpone sex (abstinence till they marry).

"Let those who find not the where withal for marriage,

keep them self chaste till God find them the means from His Grace" .

Prophet Muhammed (PBUH) said:

"Those of you who own the means, should marry, otherwise should keep fasting, for it curbs desires".

The western concept for delaying marriage is different from ours. When I suggested to one of my sexually active young female patient, she bluntly said "I don't want to sleep with the same guy every night."

Role Of Muslim Parents And Muslim Organizations

I am not proposing that all Muslim youth be married at age 16. But I must say that youth should accept the biological instinct and make decisions which will help a more satisfied life devoted to the career rather than spending time in chasing (or dreaming about) the opposite sex. Parents should help their sons and daughters in selection of their mate using Islamic practice as a criteria and not the race, color or wealth. They should encourage them to know each other in a supervised setting.

a) To provide a platform for boys and girls to see and know each other without any intimacy.

b) Offer premarital educational courses to boys and girls over 18, separately to prepare them for the role of father and husband and of mother and wife.

The father has a special role, mentioned by Prophet Muhammed "one who is given by God, a child, should give it a beautiful name, should give him or her education, and training and when he or she attains puberty, she should see to it that he or she is married. If the father does not arrange their marriage after puberty, and the boy or girl is involved in sin, the responsibility of that sin will lie with the father". (Reported in Mishkat, page 271).

The Curriculum For Islamic Sex Education

Islamic sex education should be taught at home, starting at an early age. Before giving education about the anatomy and physiology, the belief in the Creator should be well established. As Destoevsky puts it "without God everything, is possible" meaning that the lack of belief or awareness of God gives an okay for wrong doing".

The father should teach the son and mother should teach her daughter. In the absence of a willing parent, the next best choice should be a Muslim male teacher (preferably a physician) for boys and a Muslim female teacher (a nurse or physician) for a girl at the Sunday Islamic school.

The curriculum should be tailored according to the age of the child and classes be held separately. Only answer to a pertinent question be given. By this I mean that

if a 5 year old asks "how did I get into mom's tummy", there is no need to describe the whole act of intercourse. Similarly it is not necessary to tell a 14 year old how to put on condoms. This might be taught in premarital class just before his or her marriage.

The Curriculum For Sex Education Should Include:

- a) Sexual growth and development
 - * Time table for puberty
 - * Physical changes during puberty
 - * Need for family life
- b) Physiology of reproductive system
 - * For girls - organ, menstruation, premenstrual syndrome
 - * For boys - the organ, the sex drive
- c) Conception, development of fetus & birth
- d) Sexually transmitted disease (VD/AIDS) (emphasize the Islamic aspect).
- e)
 - * Mental, emotional & social aspect of puberty
 - * Social, moral and religious ethics
 - * How to avoid peer pressure

Sex Education After Marriage

This article is not intended to be a sex manual for married couples, though I may write such someday. I just wanted to remind the reader a short verse in Quran and then elaborate.

"They are your garments, and you are their garments".

Thus husbands and wives are described as garments to each other. A garment is very close to our body, so they should be close to each other, a garment protects and shields our modesty, so they should do the same to each other, garments are put on anytime we like, so should they be available to each other anytime, and a garment adds to our beauty, so they should praise and beautify each other.

For husbands I should say this. Sex is an expression of love and one without the other is incomplete. One of your jobs is to educate her in matters of sex especially in your likes and dislikes and do not compare her to another woman.

For wives I want to say this. Man's sexual needs are different from woman's. Instead of being, a passive recipient of sex, try to be an active partner.

He is exposed to many temptations outside the home. Be available to please him, and do not give him an excuse to make a choice between you and the hellfire.

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41. The Holy Quran: Chapter 30, Verse 21.
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The Alcohol & Drug Abuse: The American Scene And The Islamic Perspective

Dr. Shahid Athar

In Pakistan the first known case of heroin addiction was recorded in 1980. In 1981, there were only 25 cases recorded. By 1986 there were half a million cases. Now it is estimated the Lhercarebetween 1-1.5 million cases in a population of 95 million. The rate of growth of narcotic addiction in Pakistan is higher than that of USA. In addition to heroin addicts, there are about 1 million opium and hashish users, and 300,000 tranquillizer abusers. The actual number of alcoholics is difficult to determine, since they usually don't seek treatment. There are only 26 rehabilitation centers and 10,000 trained social workers.

By comparison, in the USA with a population of 220 million, there are 15 million alcoholics, 2 million heroin addicts, 5.5 million cocaine users, 6 million tranquilizer abusers and 18 million regularly use marijuana.

There are 700 treatment centers. There are 10,000 kids (children born to cocaine mothers).

The cost of drug treatment to the nation (USA) is \$117 billion per year. In 1986 congress allotted only \$2.5 billion to control drug traffic, a \$110 billion industry. The value of cocaine seized at the borders in 1985 was \$70 million (5 million in 1981) and marijuana \$70 million (2 million in 1981). Next to Columbia, the USA is the second biggest producer of marijuana.

In addition to morbidity, the alcohol and drug scene is closely connected to the crime rate. In 1985 alone 800,000 arrests were made for drug violations (compared to 400,000 in 1973). Of the 523,000 inmates in the U.S. prisons, one-third admitted drinking alcohol before committing the felony. Of the 50,000 auto accidents deaths annually, 23,000 are related to acute alcoholism, 5,000 being teenagers. In addition about 1500,000 arrests occur annually in traffic violation due to alcoholism. In addition great man made disasters have taken place due to one man's alcohol indulgence i.e. the captain of the Exxon tanker in Alaska. No wonder, the ethics committee in US congress was so careful in choosing the Defence Secretary. One third of all 75,000 AIDS cases are occurring in IV drug abusers or their partners. 54%, of drug related AIDS are in heterosexual men, 16% in women, 20% in homosexual men, 8% in partners of drug users and 3% in children born to mothers with drug abuse or whose partner was drug abuser. The alcohol and drug abuse in children as young as 5 is increasing at an alarming rate.

In addition to alcohol, marijuana, heroin and cocaine, the other drugs abused are an angel dust (PCP), speed, MDMA (estacy), china white, MPTP, tranquilizers and anabolic steroids. Let us discuss some of the medical aspects of these drugs in brief.

Marijuana:

Has 400 known chemicals, 61 of them affect the brain, the THC or delta 9 Tetrahydro Cannabinol is the most active ingredient. Marijuana impairs memory, concentration and reading capacity. Increases anxiety, apprehension and fear. It damages heart and lung. It lowers testosterone (male hormone) and sperm count and affects the outcome of pregnancy. It is more carcinogenic than cigarettes.

Cocaine:

A potent brain stimulant, was initially thought to be harmless, thus added to the soft drink (coke) in 1900. When given intravenously, it produces intense high and intense low (depression), hallucination, convulsion, cardiac arrest and death.

Heroin:

(Opium) morphine derivative. Usually injected by needle, but can be snorted or smoked. It is highly addictive with intensely withdrawal. Overdose results in death.

Amphetamines:

Are "pep pills" to fight fatigue and stay awake, suppress appetite, and stimulates heart and central nervous system. Dangerous in large doses and can cause psychological addiction.

Barbiturates:

Are used to overcome intense high and produce sleep. It can be fatal when used with alcohol.

LSD (Acid):

It is a powerful hallucinogen, can cause psychotic reaction and mental breakdown.

New Drugs:

MDMA (estacy) is LSD + Cocaine, causes disorientation initially but leads to permanent brain damage. China White is 1,000 times more potent than heroin. MPTP causes Parkinsonism (brain damage).

Alcohol:

Alcohol damages all organs of the body in due course. It damages liver (cirrhosis), causes stomach bleeding (ulcer), heart (cardiomyopathy), sex hormones and the immune system. Its effect on the brain can be acute (intoxication, delirium) or chronic (ataxia, memory loss, coordination). It is linked to breast cancer and fetal damage in women. But it is violence, homicide, suicide and drunk driving which takes most lives.

Prorile of An Alcoholic And Drug Abuser:

Instead of writing at length the problems of drugs and alcohol in youths of America, which cost the nation billions of dollars, and cost mothers their sons and daughters (MADD), I think it will be better if I print an autobiography of one of my patients (19 years old, white female, upper class, name withheld). She writes ...

"When I was in high school, my friends and I began to experiment with marijuana. After the excitement of smoking pot became "old hat", we began to try different drugs - such as hash and THC. Pretty soon cocaine and LSD were introduced to us and it was common place to go to any party "high" on one or more of these drugs. Several times, I had very frightening experiences. Specifically one night, after taking LSD I went home (to my parent's home) before my "high" was over. Usually, I stayed overnight with a friend who "tripped" with me. On this night, my boyfriend and I broke up right after I took the LSD, so I went home alone. My parents were asleep in the next room and I felt that I had to be very quiet, so as not to wake them. I was afraid to make any noise, plus I was upset over the breakup of my relationship with my boyfriend. When the LSD took effect, I was very frightened. The walls looked as though they were melting; I heard strange noises; I hallucinated, even after closing my eyes. The sights were very unpleasant and frightening images. But I couldn't do anything but lie in bed, waiting for the drug to wear off. I didn't think I could tell my parents, since I knew I had taken an illegal and dangerous drug- I was awake nearly all night, scared to death with no one to talk to. For days after this incident, I was nervous and jumpy and depressed. The incident was a major shock to my system and one that I would never want to repeat.

I stopped taking "drugs" immediately after my senior year in high school- (I had only discovered drugs at the beginning of the school year). But, I guess the stage was set off for my future reactions. Drugs did not help- they were just for fun at first - but then once the "high" was gone, there was a real "let down" feeling that followed. So we'd either do more drugs or drink a few beers to make that feeling go away. Even now, whenever I get down or "stressed out"- the first thing I do is have a few drinks. The day after is always unpleasant if I have had too many drinks - so the opportunity for a vicious cycle is there. I honestly believe that the "harmless" experiments with marijuana, several years ago, may have been the start of this tendency to turn to alcohol today. The bottom line is, I'd be a hundred times better off today - happier and wealthier if drugs had never entered my life years ago.

The Islamic Perspective:

The objectives of Islamic divine laws are the protection of faith (belief in one God), life (abortion, suicide, homicide), property (ownership) and the mind (intoxicants). Normally in the brain there is an inhibitory control which tells us not to engage in shameful or wrongful acts. Any suppressant drug including alcohol will suppress these nerve pathways and take away such restraint. Ability to make a judgement, to protect the body or honor, a quality for humans is taken away under the influence of drugs.

There are two main features of Islamic prohibitions:

a) Islam stops the wrong at the inception and not at the end. There is nothing like safe drinking age, or safe drugs to get high. Most of the teenage alcoholics don't buy the alcohol from the store but get it at home. Islam makes equal laws for both children and parents by prohibiting completely (total abstinence), but the West does not. It is for this reason, the West has been crippled to handle the problem of drugs and alcohol, because it has made dual standards.

b) Islam blocks all the avenues to the wrong. Therefore not only illicit sex is prohibited, but casual mixing of sexes freely is prohibited, but obscenity and pornography is prohibited, and in the same context, not only drinking wine is prohibited, but making it, selling it, keeping it, or even growing grapes for the sole purpose of selling it to winery for making wine is prohibited by the Prophet (PBUH). Some 1400 years ago, Allah (swt), our creator and sustainer, who cares for us, sent down following revelation in the following order, mentioned in Quran.

Al Baqarah 2:219: "They ask you concerning wine and gambling." Say: "In them there is great sin, and some profit, for men, but sin is greater than the profit."

Al-Nisa 4:43: "O you who believe! Approach not prayers, with a mind befogged, until you can understand all that you say."

Al-Ma'idah 5:93: "O you who believe! Intoxicants and gambling, (dedication of) stones, and (divinations by) arrows, are an abomination of Satan's handiwork: Avoid such (abomination) that you may prosper."

Al-Ma'idah 5:93: "Satan's plan is to sow enmity and hatred among you with intoxicants and gambling, and to hinder you from the remembrance of Allah and from prayer. Will you not then give up?"

The above verses came over period of years and when the last verse came, Muslims threw away all the wine into the streets and stopped completely in whatever state they were in, and streets of Medina were flowing with wine.

Sayings of Prophet Mohammed (PBUH) and about wine and other intoxicants.

1. "Every intoxicant is khamr, and every khamr is haram (unlawful)- reported by Muslim.
2. "Of that which intoxicates in a large amount, a small amount is haram" (Ahmad, Abu-Daud and Al-Tirmizi,).
3. "Khamar (intoxicants) is the mother of all evils". Reported in Bukhari.

The solutions: There are no easy solutions. In fact it is a multifactorial problem and each aspect should be addressed individually, and seriously, both by the government and by the public. While the total ban on production, import and export is the ideal solution to create a drug free society, by experience (i.e. in the USA with total ban on alcohol in 1920's) it is difficult to achieve unless strict laws are made and enforced on drug producers, traffickers and offenders, a law, that sees distinction between the helpless victim and a powerful drug Lord. Our current system punishes the former and spares the latter. Islam offers such tough laws to influence our morality and health. While we are trying to do these, we in the mean time should pay more attention to the needs of the victim by the education of the masses, social workers, law enforcements agencies and the physicians at the same time developing treatment and rehab centers in large scale as human sufferings continues to grow and son, daughters, husbands and fathers are being lost daily. All these require motivation and commitment from all of us. It is beyond the dignity of a human being to become dependent on alcohol and drugs and not be able to serve himself, his family and his creator in the best possible manner.