



Bibliotheca Alexandrina
Planetarium Science Center
SPRING 2014 | Year 7, Issue 2





Planetarium
Science Center

SCPlanet
SPRING 2014

Year 7, Issue 2

Cultural Outreach Sector

Educational & Promotional
Publications Unit (COPU)

Maissa Azab
Head of Unit

Editorial Team
Shahenda Ayman
Hend Fathy
Esraa Ali

Dr. Reem Sassy
Jailane Salem
Lamia Ghoneim
Moataz AbdelMegid
Ahmed Khaled
Omar Raafat

Design Team
Asma Haggag

Maha Sherin
Faten Mahmoud

Publishing Department
Language Revision

Contact Us:
PSCeditors@bibalex.org



For additional information
and reservation, please
contact:

psc@bibalex.org
Tel.:+(203) 4839999
Ext: 2350, 2351
Fax: +(203) 4820464
www.bibalex.org/psc

IN THIS ISSUE...

- 4 The Lunar Effect:
Fact or Fiction?
- 5 The Healing Hands of
Ancient Egypt
- 6 Women in Medicine
- 8 Puzzling Practices
- 11 Cultural Dis-ease
- 12 This Is Hepatitis:
Know It, Confront It
- 14 The Great Baby Sleep
Debate
- 16 Cholesterol and Kids
- 17 Allergies: The Downfall
of the Immune System
- 18 Long Live Nuts
- 19 Vegetarianism:
The Pros and Cons
- 20 Al-Zahrawi:
The Father of Surgery
- 21 I, You, and the Others
- 22 Exploring the Human
Civilization Enigma - 02

In our last issue, not only have we launched a new phase of our quarterly science communication publication, we have also embarked on a new journey to explore, and re-explore, the different aspects of human life. The first eternal theme to pop into anyone's mind in such a journey is without a doubt the closest to home: our own bodies; our health. It is truly amazing to look back at how humans have dealt with their

HUMAN HEALTH:

THEN AND NOW; HERE AND THERE

By: Maissa Azab

health since ancient times up to this minute; and to also check out what humans are capable of doing to their own selves and bodies. The truth is, human health is indeed a perpetual enigma; the more we learn about it, the more complicated we realize it is.

Today, many health issues that used to be inexplicable, and mostly terminal, have been rendered fairly clear and curable. Moreover, with so many advances, many previously dangerous operations have been reduced to simple, benign procedures. Yet, so many health riddles keep popping up, even re-emerging after a long slumber.

With our limited space, we have tried to tap into a diversity of health issues that vary from the historic, the cultural, and

the controversial, to the current, the challenging, the psychologically damaging, and the potentially devastating.

Once again, we have valuable contributions from Dr. Omar Fikry, PSC, p. 22; Dr. Mohamed Soliman, the Manuscripts Museum, p. 20; Gamal Hosni, the Art Exhibitions and Collections (AEC) Department, p. 21; in addition to the artistic illustrations of Mohamed Khamis, AEC. In this issue, we are also privileged with an introductory article by the eminent Dr. Yehia Halim Zaky, Advisor at the Bibliotheca Alexandrina Academic Research Sector.

We hope you enjoy the selection of articles and features we offer in this issue, and look forward to your comments and/or suggestions at: PSCeditors@bibalex.org.





PRINTING

By: Prof. Yehia Halim Zaky
Advisor, Academic Research Sector



Amazing as it sounds 3D printing is here; it is the Third Industrial Revolution. With modern computers and adequate software, it is now possible to construct or replicate almost anything; it started with resins, but other materials soon followed. If you need a spare part for a plane on the other side of the world, you can get it made in a matter of minutes or hours depending on its size. A complete pistol can be done of plastic material very easily, it is on the Internet!

In Medicine, it offers reconstruction of broken parts as face bones or mandible, a part of a long bone removed due to accident or disease. What is more amazing will be the manufacture of human parts using stem cell technology and 3D reconstruction. Attempts are made to make a functioning liver later this year, according to Organovo.

The impact that 3D technology will offer is not yet fully understood, but it will certainly change our lives. 3D printers use a variety of additive manufacturing technologies to create a three dimensional object by building it layer by successive layer, sparing the hollow areas until the entire object is complete.

It all starts with a digital file in 3D—like AutoCAD—or by using a 3D scanner. Incidentally, the Computed Tomography (CT) used in medicine is a 3D scanner using X-rays. It is easy to construct in a 3D matrix and view it from different directions.

The 3D manufacturing can also be achieved using a subtraction method; for example you can copy a statue of marble starting from a raw block of marble. It is possible now to recreate the Michelangelo marvel in the Vatican.



Scientists have used printing methods before to build bone and eye cells, and even print embryonic stem cells. Some scientists even hope 3D methods could eventually be used to print whole organs on demand or make such realistic cell

cultures that they render animal testing obsolete. Most of these methods relied on a variant of inkjet printing, which can create high shear forces as nozzles spit out cells, meaning only some of the printed cells survive.

A 2014 paper in the journal Proceedings of the National Academy of Sciences revealed a new way to print live cells. The technique, BlocC printing, could be used to recreate networks of brain cells in a petri dish or complicated immune-system interactions. The new method can print cells into any arbitrary shape and spaced close together or far apart. The team took inspiration for the idea from kids' rubber stamps, which are very similar to the ancient wooden blocks used to print Chinese characters.



Unlike past methods that use inkjet printing, almost all the cells printed with this technique survive the printing process. Here, cells printed into an array glow green; the method could be used to more accurately capture communication between neurons or brain cells. Also, unlike past cell-printing methods, "the major improvement is that cells printed by BlocC printing are alive—close to 100 percent viability," said study co-author Lidong Qin, a nanomedicine researcher at Houston Methodist Research Institute.





The Lunar Effect: Fact or Fiction?

By: Shahenda Ayman

Some legends say that the full Moon brings out the worst in people, causing them to sometimes act strangely during this phase of the Moon; numerous books and movies have depicted bizarre, even unnatural, behaviors. Belief in the “lunar lunacy effect”, or “Transylvania effect” as it is sometimes called, persisted in Europe through the Middle Ages, when humans were widely reputed to transmogrify into werewolves or vampires during a full Moon. However, does the Moon, in fact, have this kind of power?

Many studies have aimed to discover the connection between the Moon and human behavior, especially during the full Moon. Greek philosopher Aristotle and Roman historian Pliny the Elder suggested that the brain was the “moistest” organ in the body and thereby most susceptible to the pernicious influences of the Moon, which triggers the tides.

Following Aristotle and Pliny the Elder, some contemporary authors, such as Miami psychiatrist, Arnold Lieber, have speculated that the full Moon’s supposed effects on behavior arise from its influence on water. After all, the human body is about 80% water, so perhaps the Moon works its mischievous magic by somehow disrupting the alignment of water molecules in the nervous system.

However, there are at least three reasons why this explanation is not true. First, the gravitational effects of the Moon are too infinitesimal to generate any meaningful effects on brain activity. Second, the Moon’s gravitational force affects only open bodies of water, such as oceans and lakes, but not contained sources of water, such as the human brain. Finally, the gravitational effect of the Moon is just as potent during

new Moons—when the Moon is invisible to us—as it is during full Moons.

A team of researchers from the University of South Florida completed what they believe to be a definitive answer to the question of whether or not the full Moon causes epileptic seizures. The team reviewed 770 seizure occurrences over a three-year period that took place in the epilepsy monitoring unit at Tampa General Hospital. The goal was to determine whether or not epileptic seizures occurred more often during full moons.

The study, which was published in the scholarly journal *Epilepsy and Behavior*, revealed that the full Moon period actually had the fewest epileptic seizures. These results led the scientists to conclude that there is no significant correlation between the full Moon and increased incidence of epileptic seizures.

A new study published in the *Current Biology* journal supports what the more progressive vein of scientific inquiry has been learning for years, mainly that the human body responds to the changing geophysical rhythms of lunar cycles as a result of its own internal circa lunar clock.

To reach this conclusion, researchers from the University of Basel (UB) in Switzerland studied the sleeping patterns of 33 volunteers who were divided into two separate age groups. All the participants slept in a specially designed sleeping laboratory, and while they slept, scientists analyzed their brain patterns, eye movements, and hormone secretion levels during varying stages of the regular lunar cycle.

At the end, the research team observed that participants experienced a lower quality of sleep during full Moon cycles, even when the Moon was not necessarily visible to them. On average, it also took the participants about five minutes longer to fall asleep during a full Moon, not to mention the fact that these same participants slept about 20 minutes less on a given night around times when the Moon was at its fullest phase compared to other times.

“The lunar cycle seems to influence human sleep, even when one does not ‘see’ the Moon and is not aware of the actual moon phase,” says Christian Cajochen from UB’s Psychiatric Hospital, who led the study. “This is the first reliable evidence that a lunar rhythm can modulate sleep structure in humans when measured under the highly controlled conditions of a circadian laboratory study protocol without time cues”.

“The only explanation we could come up with is that maybe there is a lunar clock in the brain, as found in other species like fish and other marine animals,” adds Cajochen, as quoted by *The New York Times* (NYT), about the discovery. “But we do not have direct evidence for that”.

REM (Rapid Eye Movement) sleep latency, deep slow wave sleep, sleep EEG-Delta activity, and even melatonin production all change during full moons, which suggests that humans do, indeed, possess a unique and inherent lunar sensitivity that modern science is only recently beginning to understand.

It is hard to say where the lunar clock is; it is likely in the suprachiasmatic nuclei, a tiny region of the brain near the optic nerve that is involved in the production of melatonin, certain neurotransmitters and other time-keeping chemicals, all in a rhythm consistent with both its terrestrial and cosmic surroundings. Physically, human beings may be creatures of just this world, but our brains—and our behavior—appear to belong to two.

References

www.livescience.com
www.naturalnews.com
health.howstuffworks.com
freakingscience.blogspot.com

The Healing Hands of Ancient Egypt

By: Jailane Salem



Have a cold? Take a pill. Have a headache? Take a pill. Have asthma? Here is an inhaler. Ah! The wonders of modern medicine; all you need to cure a common ailment is conveniently made and packaged for your easy use.

Of course, it took us thousands of years to reach where we are now; medicine, as everything else, had humble beginnings. With the advancement of medical care and research, what baffled our ancestors in the days of yore, can be logically explained today. So let us travel back in time, and have a little peek at medicine in the times of the Pharaohs.

Ancient Egyptians were among the first people to establish the medical profession. We may view their practices as basic; at the time however, they were revolutionary. The medical field was allowed to develop because the economy was an agrarian one;

people lived and worked in the same place their whole lives, therefore advancement was easy to maintain. Not only that, they could also read and write; medical knowledge was therefore preserved and added to as time went by and more discoveries and observations were made.

One of the most important things for Ancient Egyptians was cleanliness; they knew that to decrease the risk of catching something, the best way was prevention, and to them that meant great care of personal hygiene. Not only did they believe in the importance of bathing and purifying their bodies habitually, but they also made sure that they ate a diet where unhealthy or unclean animals were avoided.

Beyond making the link of having a good diet and a well maintained hygiene to being healthy, physicians had an understanding of how the body functioned. They knew that the body had a pulse and that it was linked to the heart; their knowledge however, did not expand to the fact that blood circulated around the body. They had another theory; that of channels.

They believed that there were various channels that carried air, water, and blood. This idea came from their observations of farmers who dug out irrigation channels for their crops. Seeing how these supplied the land with the nourishment it needed, they made an analogy that the human body also has channels that are far reaching inside the body, and provide it with all its needs. It was believed that the heart was the center of the channels.

The Ancient Egyptians thought the gods were the creators and controllers of life. They believed in different gods who controlled one's health. If there was a blockage in one of the channels, they thought it was the result of the evil doings of Wehedu, an evil spirit.

The channel theory allowed medicine to move from entirely relying on spiritual cures for diseases and disorders, to realizing that medicine is a more scientific field; when a channel was blocked, remedies were tried in order to unblock it. Medicine was still strongly grounded in the spiritual realm, but this was the first step towards it stepping outside that realm.

As they knew how to write, Ancient Egyptians were able to preserve their

knowledge in written form on papyrus sheets; some were later discovered and have given us an idea of their knowledge at the time. The Ebers papyrus is one of these documents, and is thought to have been written around 1500 BCE.

Most probably it includes information that has been re-transcribed from materials dating back to 3400 BCE; this shows how far back the field of medicine goes back to. This scroll is 20 meters long, which translates to about 100 pages; it is one of the oldest preserved medical documents in existence.

Befitting its length, the Ebers papyrus has over 700 remedies, herbal and magical formulae, as well as numerous incantations and spells aimed at repelling evil spirits that cause disease. Included are information about skin problems, dental problems, diseases related to the eyes, intestinal disease, parasites, and how to surgically treat an abscess or a tumor.

Ancient Egyptians also knew how to set broken bones and dislocated joints. Surgeries that went deep inside the body were not performed, but they performed surgery on surface wounds, and could perform sutures well.

Hesy-Ra (2700 BCE) is the earliest ever recorded physician. He was known as "Chief of Dentists and Doctors" to King Djoser. A pioneer female doctor is believed to be Peseshet (2400 BCE), and was known as the supervisor of all female doctors. At the time, the top doctors worked in the Royal Court; below them were inspectors who would supervise the proper actions of doctors.

Ancient Egyptians were so well known for their advanced medicine at the time that people would travel from far in order to receive treatment there. Other rulers would also ask for Egyptian physicians to be sent to them in order to heal them, which shows the respect and reverence they were perceived with and which were justly earned at that.

References

<http://www.ancient.eu.com/article/50/>
<http://www.civilisations.ca/cmcc/exhibitions/civil/egypt/egcs05e.shtml>

Women in Medicine

By: Hend Fathy

Since the beginning of time, women have always played leading roles in different fields of science and humanities. Despite the challenges and obstacles the male-dominated thought and the deliberate suppression set for them in different cultural settings, bright names have determinedly made their way to eternity with great contributions to mankind. Women physicians were no exception; in times when they were prohibited to practice the profession, some even disguised as men to pursue their passion. In the coming lines we will shed light on some women of remarkable imprint in medicine, yet of whom we know very little.

Egypt the Great

No wonder the Ancient Egyptian civilization, being one that allowed its female members to pursue dreams beyond domesticity, is recognized as one of the greatest on Earth. In ancient Egypt, all professions were open to educated women and men; the first-ever named female in the history of science, not just medicine, is the Egyptian physician Merit-Ptah, who lived around 2700 BCE.

Unfortunately, very little is known about Merit-Ptah and her achievements in the field of medicine. However, she was immortalized by her son who was a



High Priest, and who inscribed her title of “chief physician” on her tomb at the necropolis for the Ancient Egyptian capital of Memphis, around 30 kilometers south of Cairo.

Another prominent ancient Egyptian female physician of her time was Peseshet, who lived during the Fourth Dynasty (2613–2494 BCE). According to inscriptions on a stela found in an Old Kingdom tomb, she was known as a “lady overseer of the female physicians”. This title not only shows that there was a body of female physicians in Ancient Egypt, but also that it was directed and supervised by a woman as well.

A later notable Egyptian female who made her mark in the field of gynecology in the second century was Cleopatra, not to be confused with the former Ptolemaic

Queen. Cleopatra wrote extensively about pregnancy, childbirth, and women’s health; her works continued to be the focus of study for more than a thousand years.

Seventeenth Century Britain

The Victor/ Victoria of Medicine

Much later in time, women were not as lucky as Egyptian females. In the early 17th-century Britain, when no female students were admitted into medical schools, Margaret Ann Bulkley made history as the first female to graduate as a medical doctor from Edinburgh University and became the first British female surgeon, all while disguised as a man.

Born around 1789, in Ireland, Margaret moved with her mother to London after her Uncle James Barry—a distinguished artist—passed away in the early 1800s where two of his liberal-minded friends took her under their wings. The four of them together



provided the ingredients for Margaret's future as a physician; the disappearance of Margaret Bulkley and the appearance of a young medical student called James Barry was carefully orchestrated.

Barry graduated in 1812 and decided to join the British Army; surely a strange, yet ambitious, choice for someone with such a secret to hide. Her excellent credentials made her a good candidate, and she is said to have managed to get around the physical examination somehow. During her service period in the Army, Barry got promoted to high-ranked prestigious posts and was well-known for her professionalism and excellent manners.

The Military sent Barry around the world; yet, her biggest accomplishment was in South Africa in 1826. She performed an excellent Caesarean section surgery, becoming the first known instance of a British surgeon performing the surgery with both mother and child surviving.

The secret Dr. James Barry kept for over fifty years was only known after his/her death in 1865. Sophia Bishop, a maid at Barry's lodging, discovered while laying out the body in preparation for burial that the person she had always known as a man was in fact a woman.

Margaret Bulkley was buried with full military honors in the graveyard at Kensal Green where Dr. James Barry's tombstone can still be seen.

The Lady with the Lamp

Florence Nightingale, the founder of modern nursing, was born in 1820, to a wealthy family who expected her to make a good marriage and live a conventional upper class woman's life. Yet, she had another plan that ended up into a long-lasting celebrated legacy.

Nightingale developed an interest in nursing, and despite her parents' denial, began visiting hospitals and medical institutes in 1844. Her desire to have a career in medicine was reinforced when she met the first American female physician, Elizabeth Blackwell, during the latter's visit to London. Blackwell encouraged her to keep trying.

Having her parents relenting to her restless passion for nursing in 1851, Florence had a three-month nursing training in Germany. This qualified her to become superintendent of a hospital for gentlewomen in London, in 1853. The following year, the Crimean War erupted and newspapers reported a desperate lack of proper medical facilities for wounded British soldiers.

In 1854, she led a team of 38 women to take over the management of the Barrack Hospital.

Nightingale found conditions filthy, supplies inadequate and overcrowding severe. She bought equipment with funds provided by the London Times and enlisted soldiers' wives to assist with the laundry. Most important, she established standards of care, setting bathing, clean clothing and dressings, and adequate food as basic necessities.

She also paid attention to psychological needs through assistance in writing letters to relatives and through providing educational and recreational activities. Nightingale herself wandered the wards at night to provide support to the patients, hence earning the title "Lady with the Lamp". Her accomplishments reportedly reduced the mortality rate among soldiers to about 2%.

In 1860, she established the Nightingale Training School for Nurses in London. Once the nurses were trained, they were sent to hospitals all over Britain, where they introduced the ideas they had learned, and established nursing training on the Nightingale model. A few years later, she opened the Women Medical College with the aid of her friend Dr. Blackwell.

Nightingale's theories, published in *Notes on Nursing* (1860), were hugely influential and her concerns for sanitation, military health, and hospital planning established practices that are still in existence today. Nightingale received a number of prestigious merits and awards from different countries for her notable contributions and passed away in 1910.

America's First Female Doctor

Crossing the Atlantic to the USA, we meet Dr. Elizabeth Blackwell, the first woman to receive an MD degree from an American medical school in 1849.

Born in England, in 1821, Elizabeth Blackwell was educated by a private tutor until her family moved to the USA in 1832. At the age of sixteen, Elizabeth worked as a teacher to help support her family after the death of her father. During this period, urged by the suffering of a dying friend and by her private readings in medicine, Elizabeth decided to become a doctor.



Elizabeth Blackwell applied to numerous schools of medicine but was rejected by them all because she was a woman. However, when her application arrived at Geneva Medical College at Geneva, New York, the administration asked the students to decide whether to admit her or not. The students, reportedly believing it to be only a practical joke, endorsed her admission. She studied hard and endured the taunts and meanness of the other students and the people in the college town to graduate first in her class in January 1849.

One of the things she did after receiving her medical degree was travel to Paris and then to London—where she met and became friends with Florence Nightingale—to study more about medicine. Having been denied a post in American hospitals after her return, Elizabeth had to purchase a house in which to begin her practice and began to see women and children in her home, and even started a dispensary. Later, she was joined by her sister Emily, newly graduated with a medical degree, and another woman doctor. A number of leading male physicians supported their infirmary as consulting physicians.

In 1868, the Blackwells established a medical college for women, and the following year, Elizabeth left Emily in charge of the infirmary and college and returned to England to open the Women Medical College in cooperation with Florence Nightingale.

Elizabeth Blackwell passed away in May 1910, having made a name for herself as the first female doctor in America.

The ladies we just skimmed through represent only a handful of examples of the impact of women in medicine. Nowadays, many prestigious medical associations, merits, and awards are named after them in an attempt to spotlight these names and give the remarkable achievements of these women their due respect.



References

- www.bbc.co.uk
- www.nlm.nih.gov
- www.dailymail.co.uk
- www.britannica.com
- www.ancientstandard.com
- www.ancient.eu.com
- www.victorianweb.org
- www.womenshistory.about.com
- www.todayifoundout.com
- www.socialstudiesforkids.com



By: JaiLane Salem

Each culture has certain practices and beliefs that distinguish it from others; it is what makes each culture unique. However, when viewed from an outsider's lens these said practices may seem bizarre and even dangerous at times.

Cultural practices do not always stand the test of time; some die out. Many cultural practices are related to body modifications, and each culture's definition of beauty. By exploring them, we delve into other people's perceptions, allowing our own views to be challenged as well as widened. Not only will we be looking at cultural practices and their effect on one's health, we will also have a look at health practices that are bizarre by modern standards, but that were deemed effective when they were still in use.

Lotus Feet

Our first order of business takes us to China, where the practice of foot binding used to take place. It is an old Chinese custom where a young girl's feet were wrapped and bound in order for it to alter its growth and change its shape; it is believed to have originated in imperial China in the 10th century or 11th century.

At first, this practice differentiated upper class women from the other classes; however, it eventually spread to other classes as well. The practice was banned by the Chinese Government later on but it took a long time for it to die out. You can still find women who had their feet bound, but they will be around 70 years old or older.

What happened was that when a girl reached three years of age, her toes would be broken and her feet bound tightly in linen strips so as to stop their growth and mold

PUZZLING PRACTICES

them into the "lotus" shape. The ideal was to create a 3-inch "lotus foot"; the binding would force the girl's toes down toward the soles of her feet to form a concave shape. What perpetuated this tradition was that a girl's prospective heavily depended on whether she had bound feet or not; families would only look for brides who had bound feet.

The binding of the feet was not a one-time process; as the girl grew, her feet had to be re-broken and rebound to ensure that it was molded into the correct shape. Due to the unnatural shape the feet took on, women's health was greatly affected. Women with bound feet found it difficult to walk, squat, or work in the fields. Many other things could go wrong and infections could occur; in general, their quality of life suffered.

A 1997 study, by researchers at the University of California at San Francisco, found that women ages 80 and older with bound feet were more likely to have fallen in the previous year and to need assistance in rising from a sitting position. They also had lower bone density in the hip and spine than women with normal feet, increasing their risk of debilitating fractures. Overall, it is a relief that this extreme practice has died out.

Flamingo Beauty

Crossing the borders, we leave China and go to Myanmar, where women with long necks are traditionally perceived as beautiful in the tribe of Kayan. This is something that is true in many cultures, but for the Kayan people, it goes a step further.

Women of the Kayan tribes are well known for wearing neck rings made from brass coils that are placed around the neck to give the appearance of extremely long necks. Around the age of five, girls start to wear rings around their necks; as they grow older, more brass coils are placed around their necks.

How does this tradition affect their health? Well, some people may feel when they see them that their necks have been

elongated, but orthopedic surgeons say this is impossible, at least without eventual paralysis or death. What happens is that the weight of the brass pushes the collarbone down, compressing the rib cage; the appearance of a stretched neck is thus created by the deformation of the clavicle.

Some women have removed the rings and after an initial discomfort they feel normal. The Government of Myanmar has started discouraging neck rings and many women have broken the tradition; however, in remote villages, some women still continue with this tradition.

Chiseled Faces

Moving further South, we come to New Zealand where the Māori people reside. They are the indigenous people of New Zealand and are famous for their tattoos, especially facial tattoos. These are called Tā moko, and are permanent body and face markings.

The traditional Māori technique for the Tā moko was to dip a narrow blade in black pigment and then tap the blade with a mallet to chisel deep incisions into the skin. This technique cut and scarred the face, and when all was healed, it left a black raised pattern on the cheeks, forehead, eyelids, and chin.

This practice no longer takes place; men stopped having the Tā moko applied with the traditional method around the 19th century, while women continued to have it until the 20th century. Nowadays, the Māori people use modern day tattoo



techniques to get their Tā moko done, leaving the surface of the skin smooth unlike before.

Those who were of the highest rank were the ones who received Tā moko. The getting of a Tā moko was very important, and there were many rites and rituals to commemorate the occasion.

Due to the nature of the procedure the pain was agonizing; after the initial operation, the face would become swollen. In some cases people were known to lose their vision for some time. Not only that, but due to the loss of blood as well as the high risk of infection, there was a risk of dying.

There was no medicine or pain killers that could help alleviate a person's discomfort, they had to endure the extreme pain; hence, the Tā moko was a symbol of courage. Due to the risky nature of the facial Tā moko, it was usually done over the span of a few years, so as to allow the body to rest and recover before starting the painful process again.

Male facial Tā moko was considered, in ancient times, a sign of not only adulthood but of achievement as well. It also enhanced a person's physical appearance, and was regarded as a flattering adornment. Men's faces were tattooed from forehead to throat, in such a way that the end outcome was to create a mask-like effect, enhancing the man's bone structure.

Even though the end result is quite impressive, getting a Tā moko, or a tattoo in general, can be quite dangerous. Today, tattoo artists have to follow rules and regulations for sterilizing equipments and working in a clean environment in order to offer the wearer a safe experience, but this has not always been the case.

Infections that can theoretically be transmitted by the use of unsterilized tattoo equipment or contaminated ink include surface infections of the skin, fungal

infections, some forms of hepatitis, herpes simplex virus, HIV, staph, tetanus, and tuberculosis.

Adorned Skin

Leaving behind New Zealand, we cross West over the ocean and arrive in Africa, where we find another cultural practice that has to do with adorning the skin with patterns: scarification. This practice can be found in several places across Africa; it serves many purposes: to express identity, to mark important times in one's life, for beautification, and as cure for ailments.

Scarification is carried out when the skin is incised with a sharp tool, and shapes are drawn into the skin; when the scars heal they form the pattern on the skin that is viewed as a beautifying adornment. In many cases, the scar denotes to which tribe the person belongs to.

There are also procedures to create a raised scar; to form such a scar after the skin is broken, irritation to the wound is created so as to prolong the healing process, and cause the scar to be raised more than usual.

The process of getting a scarification is not only long, it is also very painful. This permanent modification to the body means a lot to its wearer; in West Africa, facial scarification is used for identification of tribes, families, individuals, as well as to express personal beauty.

It is also performed on girls to mark their readiness to marry; by withstanding the pain of getting a scarification, she signals that she is able to withstand the pain of childbirth and is therefore mature enough to marry. However, this tradition is no longer as widely practiced as before. It can be mainly seen on the elderly; as more and more people move to the urban areas, they start adopting more urban notions about appearance.

The process of scarification produces harm and trauma to the skin and that is

why it can be quite dangerous. Infections can be caught easily if the tools used are unclean and if the environment is not sanitary. The wounds must always be kept clean to avoid any complications, and clean hygiene must be maintained. Usually those performing the scarification have done so countless of times before, but they have to be careful while they do their work so as not to endanger the health of the person who is getting it.

Perfect Figures

Moving North and leaving Africa behind, we cross the Mediterranean and find ourselves in Europe, where tight-lacing was all the rage in the 18th century. This was the practice of wearing very tight and form-fitting corsets; it started in the 16th century, but was full force in the 18th century. Many women wore them for fashion reasons, ignoring the negative effects it had on their health.

The stays that were used in tight-lacing were made from layers of heavy linen or canvas, stiffened with glue or paste, with whalebone strips inserted and stitched in between the layers. You can imagine how stiff and unyielding this garment was; it was meant to give the female figure a pleasing aesthetic by shaping the torso, giving the woman a narrower waste than naturally possible.

During the 18th century, discipline and self-control was the mantra of the age; to be able to wear such a stiff garment that limited mobility was seen as a way to exercise self-control. Although tight-lacing was only intended to decrease the size of the waist, the health consequences it had were quite significant.

Once the stays were worn for a long period of time, the abdominal muscles became weak, and were no longer strong enough to be supportive without the stays. The tight stays reduced the volume of the



torso and altered the placement of organs; some very tight stays even pushed the lower ribs inwards, leading internal organs to move in closer to each other and out of their original positions.

Of course, breathing was also altered, since the volume of the lungs was affected as well. A tight-lacer tended to breathe intercostally, which meant they only breathed with the upper part of their lungs. As the lower portion of the lungs was used less, mucosal build-up occurred, which led to a slight but persistent cough.

The stomach was also compressed, which reduced its volume; tight-lacers often found that eating too much causes indigestion as well as heartburn. Women in the Victorian era were known to faint often and have a weak constitution; this could be attributed partly to wearing very tight and inflexible stays. Thankfully, this practice died out; we can all literally breathe a sigh of relief!

Lobotomy, Bloodletting, and Skull Drilling!

Cultural practices are not the only things that change and evolve over time, whether dying out or morphing into something else; medical practices also pass through the same cycle.

"Here let me poke your brain with this long ice pick;" as strange as that sounds, this was a procedure that was performed during the first half of the 20th century. The idea was that people suffering from mental issues or psychological disorders could be cured by having a lobotomy.

The doctor would use a long thin instrument, which would be inserted inside the patient's eye socket reaching deep to poke the frontal lobe of the brain. Certain cuts made in brain tissue were thought to help the patient improve. As crazy as that practice sounds, at the time it was seen as quite the invention and the man who came up with the lobotomy was awarded a Nobel Prize in 1949.

The procedure evolved to the extent that doctors claimed lobotomy could be as quick and easy as a trip to the dentist. It is believed that around 70,000 people were lobotomized before the practice started to die out. That was great news because the procedure had severe negative effects on patients' personalities, as well as their ability to function independently.

Patients who underwent a lobotomy often showed a marked reduction in initiative and inhibition. They could also

become detached and some were never the same again. No wonder you cannot go poking the brain willy-nilly and expect all to be well.

Before our extensive knowledge of the body, there used to be many theories about how the body functioned and what caused its ailing. One theory that was quite popular is that of the four humors, where it was believed that the body was filled with four fluids: blood, phlegm, yellow bile, and black bile.

Any imbalance between those four could cause a lot of trouble; that is why bloodletting was quite popular from the times of the Ancient Greeks until the 19th century. Many sicknesses were believed curable if only you got rid of any excess blood you may have. We now know that this idea is baseless, and bloodletting is no longer as widely practiced as it used to.

Another odd practice was that of trepanation, which is basically the drilling of holes in one's head. Believe it or not this is one of the oldest surgical procedures in human history and can be found in different cultures and at different times. This procedure of drilling holes in the skull was most commonly performed to cure seizures and migraines.

The hole is made using an instrument called a trepan; the trepan perforates the skull and a chunk of the skull is extracted. The skin heals over the hole in the skull and the person is left with a small bump. Trepanation was practiced by the Greeks, Indians, Chinese, Egyptians, Romans, Incas to name a few. The oldest trepanned skull is 7000 years old and was found at a Neolithic burial site in France.

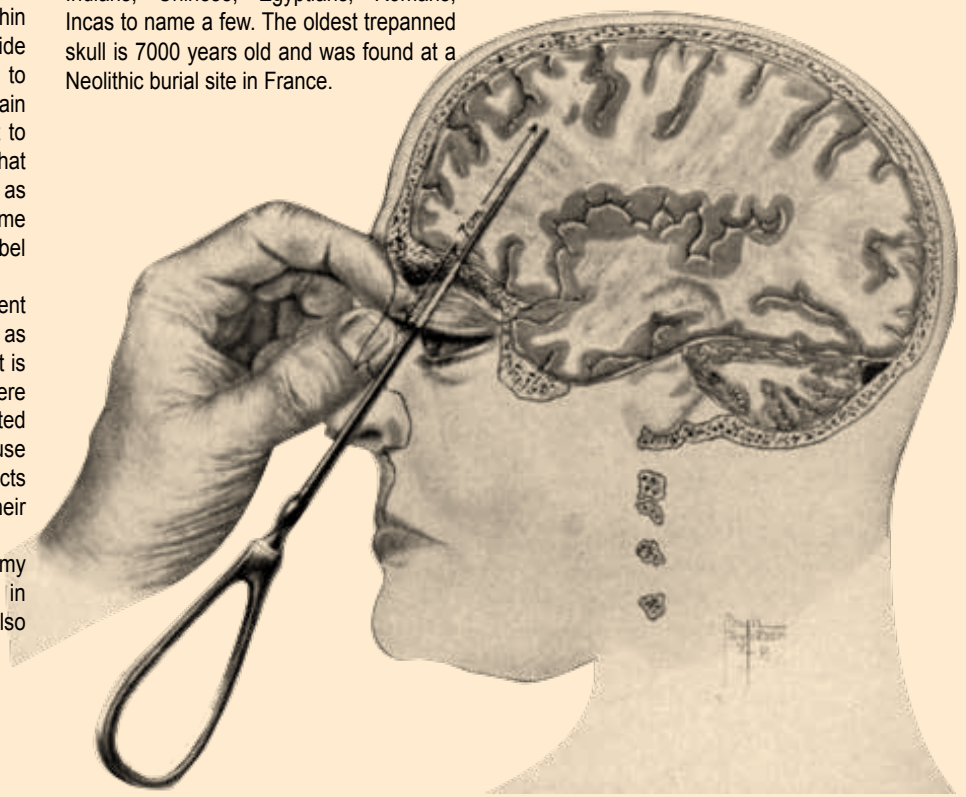
Since trepanning was practiced by many cultures and at different times, the process was not always the same and the instruments differed as well; however, the end result was the same: a hole in the skull. What is quite remarkable is that this procedure was performed while the patient was awake and fully conscious. We now are afraid of going to the dentist lest we feel some pain; can you imagine having someone cutting into your skull while you are completely aware?

All in all, the practices we had a look at show the diversity of human culture and thinking. Sometimes living in our own little bubble, we forget how big a world our Earth is, and that each culture and each individual has a different perspective and perhaps a different way of doing something.

We may view the decline of some of these cultural practices with a sigh of relief. No matter whether we agree or disagree with them, at the end of the day, it is quite remarkable and beautiful how different we are from each other, and that despite our differences we all belong to the same race and share the same Earth.

References

www.oddee.com
scienceblogs.com
content.time.com
www.med.uottawa.ca
webcoist.momtastic.com



A Cultural Dis-ease

By: Esraa Ali

Dealing with information about health and diseases communicated through the various means of media constitutes a real threat to our society. Many diseases, whether rare or well-known, have been tackled in movies, documentaries, TV series, and advertisements, becoming one of the most common themes in media as it touches people directly, either positively or negatively! As a result, certain images about many diseases, their symptoms and risks have been engraved in audiences' minds regardless of their accuracy.

Media campaigns have tackled various diseases with the aim of spreading awareness; some of which, however, have just casted fear in the hearts of many audiences. What is worse, media has neglected those who are living already with the disease and who, as a result, suffer from discrimination and frustration, and may even lose hope.

One of those diseases that have been tackled negatively in media over the past thirty years is HIV/AIDS. Many people have become familiar with the name and the methods of its transfer, which the media has focused on, without knowing much about the illness itself.

The Human Immunodeficiency Virus (HIV) is a retrovirus that infects cells of the immune system, destroying or impairing their function. As the infection progresses, the immune system becomes weaker, and the person becomes more susceptible to infections. The most advanced stage of HIV infection is Acquired Immunodeficiency Syndrome (AIDS). It can take 10–15 years for an HIV-infected person to develop AIDS; antiretroviral drugs can slow down the process even further.

HIV/AIDS is transmitted when the fluids from the body of a healthy person mix with those of someone infected; for example through the transfusion of contaminated blood, sharing of contaminated needles, and between a mother and her infant during pregnancy and breastfeeding. The virus cannot be caught like the flu, and is not transmitted just by touching or being near someone infected.

For many years, media propagated misinformation and portrayed biased views

about those living with the disease. In the late 1980s and early 1990s, there were advertisements on the Egyptian TV to raise people's awareness about AIDS; however, those TV ads tended to scare people rather than educate them, to the extent that even after reading more about the disease, you still feel worried to shake hands with those who live with the virus, as described by Tarek Amr, an Egyptian blogger.

Media tended to judge those infected with HIV/AIDS both morally and religiously, and to portray their illness as more or less a divine punishment. In early movies about the virus, they inclined to display total ignorance about the facts of the disease, and to play on fear; such as in the movies *Love in Taba* (1992) and *Disco Disco* (1994).

Consequently, the society started to view those living with HIV/AIDS as sinners who deserve their disease, and viewing them as contagious and avoiding them in any way, which becomes the reason they die more than anything else. The culture has become so intolerant to the extent that the stigma exists even among those living with the virus themselves.

In 2011, the movie *Asmaa* tried to break down the misconceptions.

The movie is a pioneering attempt to change people's attitudes and help lift the

stigma associated with HIV/AIDS. Amr Salama, script writer and director of *Asmaa*, tried to give the virus a human face and eliminate people's fear of the virus, as described by UNAIDS Country Coordinator, Egypt.

The movie is based on a true story of a middle-aged Egyptian woman living with HIV. It narrates the story of Asmaa who lives with her father and daughter in a poor Cairo suburb. She needs a simple operation on her gall bladder to save her life, but doctors refuse to treat her because she is HIV-positive.

In a world where AIDS is stigmatised, Asmaa joins an HIV/AIDS support group until the day she is approached by Mohsen Elsisy, a TV presenter, who urges Asmaa to fight her illness and the ignorance of society. Torn between her desire to live and her dread of disclosing her secret to her daughter and a judgmental society, Asmaa is adamant that, in principle, she will not disclose how she caught the disease saying that everyone has a right to be treated.

The AIDS stigma, and that of many other diseases, is media-made and we need to approach it with a new form of media, non-judgmental and not clichéd. Asmaa does a highly commendable job of portraying such a sensitive subject in such a compassionate and dignified way. So, while we may not have a cure for AIDS and other diseases, we can change the culture of how those living with diseases are perceived, and this is the media's true message.

References

www.who.int
medisnetwork.net
www.cairo360.com
www.childrennow.org
uncut.indexoncensorship.org

THIS IS HEPATITIS: KNOW IT, CONFRONT IT

By: Dr. Reem Sassy
MPH, Senghor University

Since its launch by the World Hepatitis Alliance in 2010, this theme has witnessed great success because it focuses on the real-life impact of viral hepatitis. In fact, nowadays, viral hepatitis is a major global public health problem threatening millions of lives worldwide.

Viral hepatitis is the inflammation of the liver caused by a virus; there are five different hepatitis viruses: hepatitis A, B, C, D, and E. All of them cause short term, or acute infection; however, hepatitis B, C, and D viruses can also cause long-term infection, known as chronic hepatitis, which can lead to life-threatening complications such as cirrhosis, liver failure, and liver cancer.

Hepatitis A is usually transmitted through eating food or drinking water contaminated with the virus. It is the least dangerous form of hepatitis because it almost always gets better on its own. Hepatitis B, on the other hand, can spread through blood transfusions and needle sharing. It can also pass from mother to child at birth or soon afterward—vertical transmission—and can pass between adults and children to infect whole families—horizontal transmission. Hepatitis D and Hepatitis E are less common.

Hepatitis C, our main focus in this article, is usually spread through contact with blood or contaminated needles. Although Hepatitis C may cause only mild symptoms or none at all, about 20% to 30% of those infected develop cirrhosis within 20–30 years. As opposed to Hepatitis B, Hepatitis C has no vaccine.

Hepatitis C Virus (HCV) was first discovered in the 1980s, when it became apparent that there was a new virus, not Hepatitis A or B, leading to liver damage. Before being properly identified in 1989, by Michael Houghton, it was originally known as non-A non-B hepatitis.

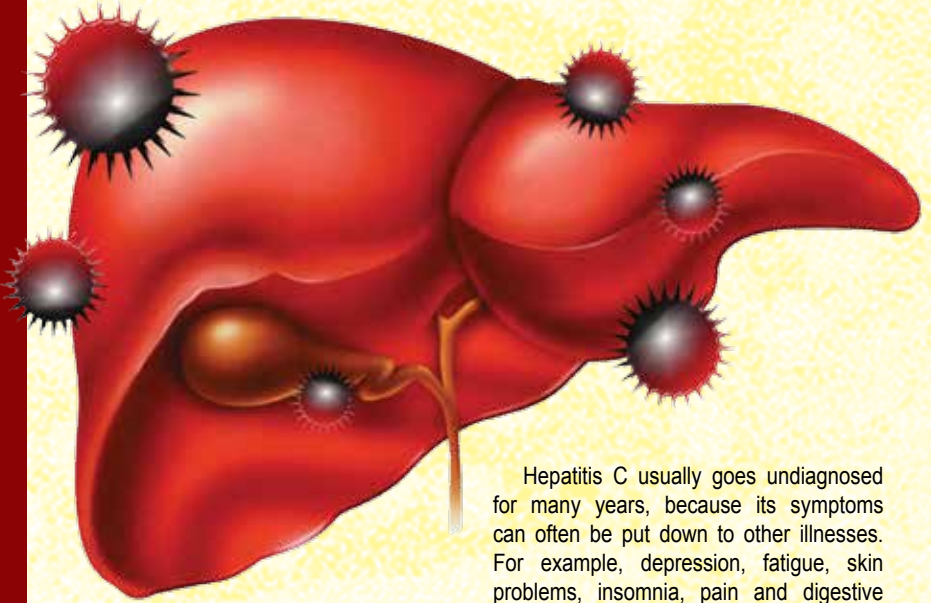
According to the World Health Organization (WHO), every year, there are 34 million new infections. About 150 million people are chronically infected and at risk of

developing liver cirrhosis and/or liver cancer; more than 350,000 people die from hepatitis C-related liver diseases every year. Hepatitis C can be treated using antiviral medicines, but this treatment is usually not well tolerated by the patients and has numerous side effects. HCV has thus become the primary reason for liver transplantations among adults in Western countries.

The HCV is most commonly transmitted through exposure to infectious blood; through receipt of contaminated blood transfusions, blood products or organ transplants. It is also transmitted via injections given with contaminated syringes, as well as injection drug use, and being born to a hepatitis C-infected mother.

However, it is not spread through breast milk, food, or water, or by casual contact with an infected person. In many countries, transmission rates decreased substantially with the introduction of routine blood screening in 1991, which is not the case in most of underdeveloped countries.

HCV is often not detected until its chronic stages, when it has already caused severe liver disease. With a typical cycle of disease from infection to symptomatic liver disease taking as long as 20 years, the true impact of this disease on our growing infected population has become more apparent after decades.



Hepatitis C usually goes undiagnosed for many years, because its symptoms can often be put down to other illnesses. For example, depression, fatigue, skin problems, insomnia, pain and digestive disorders could all have other causes. For these reasons, it is often referred to as the “silent epidemic”.

Hepatitis C in Egypt

Egypt has the highest HCV prevalence worldwide, with an estimated overall prevalence of 21.9% among adults.

The history of HCV in Egypt is very unique. In fact, the virus was introduced in Egypt through the mass campaigns of Parenteral Anti-schistosomiasis Treatment (PAT) in the 1960–1970s. This treatment consisted of weekly injections in endemic areas and the insufficient sterilisation of the injecting equipment used during this mass treatment campaign is considered to be the cause of the HCV transmission at that time. In an attempt to eradicate schistosomiasis (bilharziasis) from Egypt, another more serious disease has emerged.

Despite the broad spread introduction of oral anti-bilharzial drugs later on, the transmission of HCV in Egypt has continued through a variety of mechanisms, including blood transfusion, unsafe injections, dental treatment, and various surgical procedures.

The outbreak of Hepatitis C in Egypt was announced by the outside. In 1991, in Riyadh, Saudi Arabia, during a campaign of blood donation, about 20% of Egyptian blood donors were detected positive for HCV; at that time, this incident triggered

a crisis and it was the real start of the epidemic in Egypt.

Nowadays, the population of Egypt has a heavy burden of liver disease and is currently experiencing a wave of HCV-related morbidity with a growing number of patients with end-stage cirrhosis and hepatocellular carcinoma.

Extending the treatment of hepatitis at a large scale in Egypt is not feasible and is facing a number of major challenges; treatment costs are still too high for the vast majority of Egyptians and health care infrastructure is inefficient, especially in rural areas to allow for a proper delivery of treatment to the patients.

For patients in end-stage liver disease, treatment options are very limited; liver transplantation is the only effective treatment. As Egypt is one of the few countries around the world where organ transplants from deceased donors is not yet allowed, surgeons currently engage in living donor liver transplantation under extremely strict conditions.

The preparations for the program of living donor liver transplantation, "Living donor liver transplantation," began at the National Liver Institute, Menoufiya University, since 1992. At first, surgeries were performed with an Egyptian–Japanese joint team; from July 2007 until now, the cases are entirely operated by the team of the Institute.

The donor should be a close relative of the patient, and has to have the same blood group as the patient, a liver which is large

and healthy enough to donate a piece, and should be free from any diseases with good results in all liver function tests. If the donor is not a relative, doctors need to apply the same criteria if they are considering a foreign donor and also make sure he/she understands the risks he/she is putting him/herself through.

A Hepatitis C patient seeking a transplant is usually faced with two problems. First, is to be able to find an eligible donor; second, is to be financially able to afford the liver transplant surgery. The cost of typical liver transplant surgeries in Egypt ranges from EGP 200,000 to EGP 400,000 including the hospital expenses.

However, many patients do not find a suitable living donor. The opportunity to travel abroad for liver transplantation from deceased donors attracts more patients who are able to finance its costs. It is said that a liver transplant in China is more affordable compared to the cost of medical care in the United States and Europe. Similarly, it is possible to obtain a liver from a deceased donor body in China in a relatively short time.

Role of World Health Organization (WHO)

In response to the outbreak of the hepatitis epidemic, WHO established the Global Programme of Hepatitis in order to reduce the transmission of agents that cause viral hepatitis; reduce morbidity and mortality due to viral hepatitis through

improving the management of the patients, and reduce the socio-economic impact of viral hepatitis at individual, community and population levels.

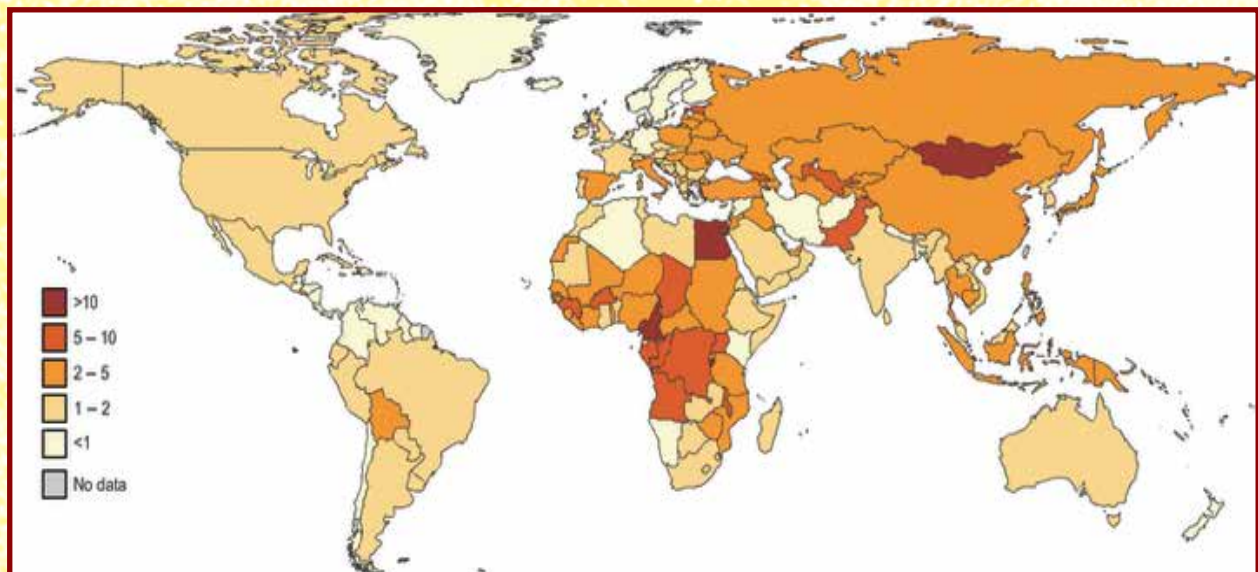
WHO, in coordination with the World Hepatitis Alliance, also organizes World Hepatitis Day on 28 July of each year. This annual event aims at providing international focus for patient groups and people living with viral hepatitis. It is an opportunity to raise global awareness and influence real change in disease prevention and access to testing and treatment.

As a relatively new disease there are still many aspects of Hepatitis C which are yet to be fully understood. Countries should review their strategies to fight Hepatitis C and to improve access to early detection and treatment of chronic patients to prevent liver complications. They must also ensure access, equity and sustainability of care by allowing all eligible people to access treatment services.

Global efforts are needed to fight Hepatitis C, help low-income countries to increase access to treatment and encourage scientific research to find new drugs and an effective vaccine against the silent epidemic that is threatening the world.

References

- www.webmd.com
- www.who.int
- www.epidemic.org
- www.hepctrust.org.uk
- www.dailynewseggypt.com
- www.worldhepatitisalliance.org



Prevalence of hepatitis C in the world (2010). Source: Lavanchy, 2011

By: Lamia Ghoneim

The Great BABY Sleep Debate

Should we let restless babies cry themselves to sleep?

When I first held my precious newborn girl in my arms, I pledged my life for her happiness, and I knew deep in my heart that I would do anything for her. I was confident that with the strength of love I felt for her, I would conquer every challenge that motherhood has to offer. I was ready to sacrifice every moment of my being just to keep her safe and happy, and I would do so gladly and without a moment's hesitation.

Admittedly, I was not aware that my sacrifice would involve staying awake for days on end, and that my chronic lack of sleep would soon turn my confidence and strong resolve into desperation. It is the same story of many new parents, faced with the constant sleep deprivation that comes with a wakeful newborn.

While many parents begin to get a better night's rest as their baby nears his third or fourth month and starts sleeping for longer intervals of time, for some unlucky souls like myself, the baby sleep dilemma had just begun. Instead of sleeping through the

night and going to sleep fairly easily, some babies grow more restless as the months go by, waking every hour or less and requiring a long time and effort to be soothed back to sleep every time.

Long, supposedly relaxing bedtime routines do not seem to help; neither does co-sleeping, expensive vibrating cribs, pacifiers, gentle patting, extra bottles, soothing chamomile drinks, or any other common-sense advice given by well-meaning parents of well-rested babies. This is when the sleep-deprived parents start combing the bookshelves for a sleep guru; a professional who will help explain how to get their baby to sleep, preferably through the night.

This is when they begin to struggle with the "The Great Baby Sleep Debate", also known as the "Cry it Out Debate", that professionals never seem to settle, which basically means whether we should let our now older baby learn to soothe itself to sleep—and cry its eyes out in the process—or to keep on running to its rescue every time it whimpers in its sleep.

Let the Crying Baby Lie

Experts have completely differing opinions on this issue, and often go into heated debates regarding the best sleep training approach.

At one end of the spectrum, there is the famous Dr. Richard Ferber, Founder of the Center for Pediatric Sleep Disorders at the Children's Hospital in Boston, and strong

advocate of letting babies learn to sleep independently. Since the publication of his book *Solve Your Child's Sleep Problems* in 1985, he has become known as a leading—and controversial—expert on children's sleep.

Chances are you have heard about Ferber's method for teaching babies to soothe themselves to sleep—a method so closely associated with him it is often called "Ferberizing". This method and variations on it are also referred to as "the cry it out" method, although Dr. Ferber refuses to call it that for obvious reasons.

In a nutshell, Ferber says you can, and should, teach your baby to soothe himself to sleep when he is physically and emotionally ready; usually between five to six months of age. This is the age when Ferber believes babies no longer require night time feedings, and are able to sleep through the night.

He recommends following a warm, loving bedtime routine and then putting your baby in bed awake, leaving him—even if he cries—for gradually longer periods of time. Putting a child to bed awake, says Ferber, is crucial to successfully teaching him to go to sleep on his own and for longer periods because it teaches him that he is able to sleep unaided, without the sleep associations he developed over his short months.

Parents are instructed to pat and comfort their baby after each predetermined period of time, usually starting with 5–10 minutes, but not to pick up or feed their baby. This routine is called "progressive waiting". After a few days to one week of gradually





increasing the waiting time, the theory goes, most babies learn to fall asleep on their own, having discovered that crying earns nothing.

Following the training, babies no longer wake up and demand attention through the night. Instead, whenever they stir during regular REM⁽¹⁾ sleep intervals, they soothe themselves back to sleep instantly, the same way adults do on their own.

Other authors and consultants have since added and subtracted behaviors to create their own formulas of the Ferber method—staying in the room or not, being visible or not, soothing by voice or not, touching or not, gradually increasing time intervals between check-ins or not—though most caution against sleep training under six months.

Advocates of this school insist that it is best for the babies' health and happiness, as well as the parents'; nighttime rest makes babies more attentive during the day, allowing them to grow stronger and reach their developmental milestones faster.

Many parents swear by the “cry it out” method and how it worked for their sleepless babies, who became good sleepers after they “ferberized” them. However, for some parents, Ferber’s approach is not extreme enough; they choose to resort to a more harsh form of the sleep training program by simply shutting the door.

Most experts disapprove of this extreme approach, including Dr. Ferber himself, who in the second edition of his book, published in 2006, added a preface clarifying the difference between his method and a shut-the-door approach.

Do Not Let the Baby Cry

At the other end of the spectrum, are parents who cannot bear the sound of a crying baby, supported by the “no-cry” experts who consider letting a baby cry for any length of time to be cruel, unnatural, and a betrayal of the trust your baby is developing in adults and the world around him.

The most famous advocate of the no-cry school is the founder of the “Attachment

Parenting” movement Dr. William Sears—aka “America’s Favorite Pediatrician”. Sears recommend maintaining close physical contact with a baby 24 hours a day for the sake of bonding. Parents are encouraged to keep the baby next to them at all times in their arms or in a baby carrier, to cosleep, and to nurse a child for comfort whenever the baby cries or a toddler asks.

In his book *The Baby Sleep Book*, Sears emphasizes a nurturing, child-centered approach to sleep and recommends patiently helping your baby learn to sleep in his own time. He encourages co-sleeping, rocking, and nursing your baby to sleep, and other forms of physical closeness to create positive sleep associations now and healthy sleep habits down the road.

He devotes an entire chapter to critique the “cry it out” approach, arguing that it can give your child negative associations with bedtime and sleep that could last a lifetime, whilst teaching him to lose trust in the support of his family.

No-cry advocates admit that the approach can take a while—longer, in all likelihood, than the cry it out techniques—but they maintain that in the long run it is less traumatic for baby and parents alike.

The Evidence Does Not Lie

Adding to the confusion of sleep-deprived parents are the contradicting studies supporting both schools of sleep training.

On one side, some studies claim that ignoring baby cries during sleep training is linked to all kinds of problems later in life; ADHD⁽²⁾, antisocial behavior, and even lower IQ⁽³⁾. At the root of these claims is the idea that the stress of crying and the absence of a responsive parent release intense levels of chemicals—namely stress hormones such as cortisol—that alter a child’s brain development.

The work of UCLA⁽⁴⁾ researcher Dr. Allan Schore is often cited as

evidence to support that the cortisol released during intense crying damages nerve cells in the brain, leading to unhealthy attachments and psychological disorders. Shore demonstrates how a repeated pattern of unmet needs disrupts a child’s stress-regulating system and can alter the way his limbic structures process emotion.

However, Schore’s research is in fact about how trauma, chronic neglect, or abuse affects a child, not about implementing the “cry it out” technique against the background of a caring and responsive parenting atmosphere. His data is mainly collected from grossly neglected children, often using Child Protective Services cases for reference.

On the pro-sleep-training side, a recently published Australian study followed 326 children with parent-reported sleep problems at seven months. Half the babies were placed in a sleep-training group—using a form of a “cry it out” technique—and the other half in a that did not use sleep training.

Five years later, researchers followed up with the now-six-year-old participants and their parents. The children in the two groups showed no significant differences in terms of emotional health, behavior, IQ, or parent-child bonds. As a result, the researchers found no harm in permitting children to cry for limited periods of time while they learned to sleep on their own.

Other contradicting research includes a study conducted at the University of North Texas observing 25 infants aged four to ten months in an inpatient sleep training program. Researchers monitored levels of the stress hormone cortisol in the babies who were left to cry themselves to sleep without being soothed.

The scientists measured how long the infants cried each night before they fell asleep. By the third night, the babies were crying for a shorter period of time and falling asleep faster. However, the cortisol levels measured in their saliva remained high, indicating that the infants were just as “stressed” as when they were crying.

What the researchers thought was concerning was that, although the infants’ internal physiological distress levels had not changed, their outward displays of that stress were extinguished by sleep training.

Opponents argue that perhaps the infants were not stressed in the first place and their cortisol levels were normal, or that even if they were stressed, it is a kind of positive stress that creates growth in the child, in the form of coping skills and frustration tolerance that serve to be critically important throughout their life span.



Cholesterol and Kids

By: Ahmed Khaled



To Cry or Not to Cry

The good Dr. Spock advocated decades ago that parents should be skeptical of all the parenting “methods” and trust their own instincts, since no single approach works for every baby or every situation.

“The American Academy of Sleep Medicine” is in agreement with this advice. After reviewing sleep-training strategies, including crying-it-out and no-cry approaches, their conclusion was that there is no single, best approach for solving your baby’s sleep problems. Each baby is different, and parents should choose what is best for their particular situation, provided they follow one simple rule: consistency.

It has been five years since I let my baby cry herself to sleep, but I still remember the sound of her crying like it was yesterday. I remember sitting alone in the dark arguing with myself, holding myself from rushing to her rescue, and it still tugs at my heartstrings every time I think about it.

I also remember that it worked like magic. In a matter of days, my baby, whose previous bedtime ritual lasted for tedious hours, and who never once slept for more than one hour at a time, was falling asleep on her own within minutes, and sleeping ten to twelve hours straight every night.

During the day, she was also a happier child; gone was the frequent fussing and crying, and all the milestones she had previously missed she quickly achieved at lightning speed.

At the time I decided to go with the cry-it-out method, I had read every book and studied every research, and tried every no-cry method to no avail. As miraculous as it may seem, the cry-it-out method is not for everyone. While I do not really believe I have damaged my baby’s brain or caused her everlasting problems by resorting to this route, I would have preferred to teach her the sleeping skills she needed without the trauma associated with this method, even if the trauma—and guilt—were only mine to bear.

Glossary

- 1. REM:** is a stage of sleep characterized by the rapid and random movement of the eyes.
- 2. ADHD:** Attention Deficit Hyperactivity Disorder is a psychiatric disorder of the neurodevelopmental type in which there are significant problems of attention, hyperactivity, or acting impulsively that are not appropriate for a person’s age.
- 3. IQ:** Intelligence Quotient, is a score derived from one of several standardized tests designed to assess intelligence.
- 4. UCLA:** The University of California, Los Angeles, is a public research university located in the Westwood neighborhood of Los Angeles, California, United States.

References

Richard Ferber (2006) “Solve Your Child’s Sleep Problems”, Touchstone edition.cnn.com
 psynet.apa.org
 abcnews.go.com
 www.askdrsears.com
 www.babycenter.com

Cholesterol is a type of fat particle found in blood, and is made by the liver; it is needed for the body to perform certain functions, such as building cell walls and producing hormones. While some cholesterol, like HDL cholesterol, is helpful (“H” for helpful); other cholesterol, like LDL cholesterol, is lousy (“L” is for lousy). When you have too much of the lousy kind and not enough of the helpful kind, the likelihood of developing heart disease increases.

Once thought of as a disease of middle age, heart disease, heart attacks, strokes, and other blood vessel problems, cholesterol is a growing concern among our children and adolescents.

According to the Centers for Disease Control and Prevention (CDC) National Center for Health Statistics (NCHS), the incidence of overweight kids and teens has tripled since 1970; today, more than 30% of American kids are considered overweight or obese.

The American Heart Association, along with other childhood obesity experts, blames the epidemic on the growing sedentary lifestyle and lackluster nutritional habits. Think of days filled with television, video games, and other technology that encourages us to sit, and diets filled with fast food and highly processed foods.

Weight and lifestyle are not the only culprits; heart disease can also be in our genes. Family history of early heart disease, diabetes, and high blood pressure also increases our odds for atherosclerosis (plaque building up in arteries), high cholesterol and lipid abnormalities.

What will land kids on the at-risk list having a family history of high cholesterol or premature heart disease—onset before age 55 for men, 65 for women—or a family history that is unknown.

For children who are overweight, lifestyle changes are the first line of action. Nutritional counseling is helpful for creating a diet low in saturated fats and cholesterol. Exercise is also essential; kids and teens should get 60 minutes or more of physical activity every day.

References

health.howstuffworks.com
 www.whattoexpect.com
 kidshealth.org





By: Ahmed Khaled



ALLERGIES:

THE DOWNFALL OF THE IMMUNE SYSTEM

A properly functioning immune system is a well-trained and disciplined biological warfare unit for the body. The immune system is quite amazing; it is able to identify and destroy many foreign invaders. The immune system can also identify cells that are infected internally with viruses, as well as many cells that are on their way to becoming tumors. It does all of this work so the body remains healthy.

As amazing as the immune system is, it sometimes makes mistakes; allergies are the result of a hypersensitive immune system. The allergic immune system misidentifies an otherwise innocuous substance as harmful, and then attacks the substance with ferocity far greater than required. The problems this attack can cause range from mildly inconvenient and uncomfortable to the total failure of the organism the immune system is supposed to be protecting.

If you have read about immunity, you should know about lymphocytes, also known as white blood cells. Lymphocytes are a fundamental component of the immune system; when they make a mistake it can create an allergic response.

There are two types of lymphocytes: B lymphocytes (B-cells) and T lymphocytes (T-cells); both types help guard your body against foreign substances such as invading bacteria, viruses and toxins. They move freely through and among the tissues of the body, travel through the walls of blood vessels, and move between the various lymph nodes and lymph channels; namely, everywhere.

Lymphocytes act like traveling customs agents; everywhere they go, they are busy checking every cell they encounter. Whenever they discover a cell that seems threatening, they immediately begin

countermeasures against it. When a lymphocyte encounters a particle or cell with surface marker molecules that identify it as a foreign invader, it performs a microscopic version of taking fingerprints and mug shots of the invader.

As these foreign invaders lead to the production of antibodies, they are called antibody generators, or antigens. After a B-cell identifies an antigen, it will make its way back to a lymph node, change into a plasma cell and produce antibodies specifically engineered to fight that particular threat.

There are five basic types of antibodies, known as Immunoglobulins, or Ig. Each is classified by type with a letter suffix: IgA, IgD, IgE, IgG, and IgM; however, the Ig responsible for allergic reactions is IgE.

In a properly functioning immune system, the genetic code contains enough information to enable the lymphocytes to distinguish between threatening and non-threatening proteins. In an allergic person's immune system, the lymphocytes cannot tell that the protein ingested as part of a meal containing shellfish is not invading the body.

The B-cells of an allergic person, "misinformed" at the genetic level, lead to the production of large quantities of IgE antibodies that attach themselves to mast cells throughout the body, which is scientifically known under the name of sensitizing exposure.

Although mast cells are found in connective tissue, they have one thing in common to the allergy sufferer. They contain histamine, which is an important weapon in the body's arsenal for fighting infection. Unfortunately, when released into the body in too high a quantity, histamine is a potentially devastating substance.

It takes between one week and ten days of sensitizing exposure for the mast cells and basophils to become primed with IgE antibodies. Then, if the allergen comes along again, it triggers a destructive domino effect within the system known as the allergic cascade.

When mast cells and basophils are destroyed, their stores of histamine and other allergy mediators are released into the surrounding tissues and blood. This leads to dilation of surface blood vessels and a subsequent drop in blood pressure. The spaces between surrounding cells fill with fluid. Depending on the allergen or the part of the body involved, this brings on the various allergy symptoms, some of the most common are sneezing, wheezing, diarrhea, or vomiting.

There are three techniques commonly offered by doctors to help allergy sufferers: avoidance, medication, and immunotherapy. Many allergens, once identified, can simply be avoided; if you know you are allergic to shellfish, you do not eat it.

Unfortunately, many allergens—like pollen, mold, dust, and preservatives—are very difficult, if not impossible, to avoid. These can often be managed by using medications such as antihistamines, decongestants, cromolyn sodium, corticosteroids, and in the case of anaphylaxis, epinephrine.

Immunotherapy, on the other hand, is expensive, time consuming, and not without risk; but it is often the only hope a person has for leading a normal life. It consists of a series of injections of the offending allergen, beginning with a very weak dilution and gradually building in strength to a maintenance dose that may be continued over time. The injections help the immune system produce fewer IgE antibodies, while also stimulating the production of a blocking antibody called IgG.

It is amazing how our immune system acts as an internal army against any external invasion that threatens our body; however, it seems this army can sometimes be the threat itself. Like anything else around us, our immune system has its downsides; but this does not, by any means, take from its great role in protecting us.

References

- www.aaaai.org
- blogs.discovery.com
- health.howstuffworks.com
- science.howstuffworks.com

LONG LIVE

By: Omar Raafat

In winter, we always feel hungry, then we eat a lot of food and we gain weight; the kind of food that we eat may also be harmful to us. So when you feel hungry, grab a handful of nuts; not only are they packed with protein, but it turns out they may be the food for longevity.

Nuts are part of the balanced diet public health officials recently outlined in the Dietary Guidelines for Americans; the government group advised that adults eat about 140–170 grams of protein—which could include nuts—per day.

Several people ask: How many nuts does it take to extend lifespan? That is not clear; scientists say that the findings do not imply any cause and effect relationship between nuts and later death; however, the correlation is worth investigating further.

At least, that is the conclusion of the largest study to date looking at the relationship between eating nuts and longer lives. Nuts are high in unsaturated fats, protein, and vitamins, as well as antioxidants that are thought to be linked to a lower risk of heart disease.

According to the largest study of its kind, people who ate a daily handful of nuts were 20% less likely to die from any cause over a 30-year period than those who did not consume nuts, say scientists from the Harvard-affiliated Dana-Farber Cancer Institute and Brigham and Women's Hospital, and the Harvard School of Public Health.

Their report, published in *The New England Journal of Medicine*, contains further good news; regular nut-eaters were found to be more slender than those who did not eat nuts, a finding that should alleviate fears that eating a lot of nuts will lead to overweight. The report also looked at the protective effect on specific causes of death.

“The most obvious benefit was a reduction of 29% in deaths from heart disease, the major killer of people in America,” said Charles S. Fuchs, Director of the Gastrointestinal Cancer Treatment Center at Dana-Farber, who is the senior author of the report and a professor of medicine at Harvard Medical School. “But we also saw a significant reduction—11%—

in the risk of dying from cancer,” added Fuchs.

Whether any specific type or types of nuts were crucial to the protective effect could not be determined. However, the reduction in mortality was similar both for peanuts—a legume, or ground nut—and for tree nuts—walnuts, hazelnuts, almonds, Brazil nuts, cashews, macadamias, pecans, pistachios, and pine nuts.

Several previous studies had found an association between increasing nut consumption and a lower risk of diseases such as heart disease, type 2 diabetes, colon cancer, gallstones, and diverticulitis. Higher nut consumption also has been linked to reductions in cholesterol levels, oxidative stress, inflammation, adiposity, and insulin resistance.

Some small studies have linked an increase of nuts in the diet to lower total mortality in specific populations. However, no previous research studies had looked in such detail at various levels of nut consumption and their effects on overall mortality in a large population that was followed for more than 30 years.

For the new research, the scientists were able to tap databases from two well-known, ongoing observational studies that collect data on diet and other lifestyle factors and various health outcomes. The Nurses' Health Study provided data on 76,464 women between 1980 and 2010,

and the Health Professionals' Follow-Up Study yielded data on 42,498 men from 1986 to 2010.

Participants in the studies filled out detailed food questionnaires every two to four years. With each questionnaire, participants were asked to estimate how often they consumed nuts in a serving size of one ounce.

Sophisticated data analysis methods were used to rule out other factors that might have accounted for the mortality benefits. However, analysis was able to isolate the association between nuts and mortality independently of these other factors.

“In all these analyses, the more nuts people ate, the less likely they were to die over the 30-year follow-up period,” explained Ying Bao of Brigham and Women's Hospital, first author of the report. Those who ate nuts less than once a week had a 7% reduction in mortality; once a week, 11% reduction; two to four times per week, 13% reduction; five to six times per week, 15% reduction; and seven or more times a week, a 20% reduction in death rate.

References

edition.cnn.com
ajcn.nutrition.org
www.ncbi.nlm.nih.gov





VEGETARIANISM:

THE PROS AND CONS

While some people cannot imagine a day without meat, others insist that a vegetarian or vegan lifestyle is the best way to enjoy food and stay healthy. Vegetarian lifestyles and veganism have slowly embraced millions of people interested in eating natural foods and foregoing questionable meat sources to get their daily protein. Generally speaking, almost every person who chose to become vegetarian did so for one of the following four motives:

1. Health motives: As response to high cholesterol, heart issues, obesity, diet recommendations, diabetes, or a desire to eat healthier and more environmentally friendly, and/or a wanting to increase raw foods in their diet.
2. Spiritual motives: Revulsion to the idea of killing another organism for food.
3. Ethical motives: As protest to the terribly inhumane treatment of the food animals by the industry. Also, as protest against the genetic and hormonal alteration of the food animals. Some people with this concern are not necessarily against eating animals, but rather their treatment and so feel that eating free-ranging chicken/eggs, and cows is fine if they have lived a healthy life with normal nutrition.
4. Environmental motives: Using land and resources to graze cattle for food is horribly inefficient way to produce protein, use the same acre of land to grow soy, cut out the greenhouse gases from livestock, and you now have a recipe to truly address world hunger.

The strongest debate that vegetarians pose during their arguments is that a vegetarian diet provides a low intake of saturated fats and foods with the "bad" cholesterol. Thus, vegetarians eat a lot of dietary fiber and a variety of phytochemicals that promote health. This is achieved by increasing the consumption of fruits, vegetables, whole grains, legumes, nuts, and various soy products.

As a result, vegetarians tend to have lower body mass index, low-density lipoprotein and blood pressure. Vegetarians are less likely to suffer from coronary heart disease, hypertension, stroke, type 2 diabetes and some cancers.

On the other side, we find the argument against vegetarianism very strong, analytical, and convincing. They believe that eating meat is not cruel or unethical; it is a natural

part of the cycle of life. They argue that vegetarians mistakenly elevate the value of animal life over plant life.

Research shows that plants respond electrochemically to threats and may feel fear, so vegetarians are also causing harm every time they kill and eat a plant. Every organism on Earth dies or is killed, at some point, so other organisms can live. There is nothing wrong with this cycle; it is how nature works.

It is a fact that meat is the most convenient protein source available. In one serving, meat provides all the essential amino acids, which are the building blocks of protein, as well as essential nutrients such as iron, zinc, and B vitamins. Most plant foods do not provide adequate levels of all the essential amino acids in a single serving.

Since meat is the most convenient source of vitamin B12, several clinical studies proved that vegetarians suffer from a lack of vitamin B12, which is essential for cell growth and the formation of blood cells. Lack of this vitamin threatens neurological disorders, including irreversible loss of nerve cells. Infants who are fed breast milk by vegetarian mothers can have anemia because of a lack of vitamin B12.

Weak bones is also a common problem among vegetarians as their bones suffer from deficiency of Cyanocobalamin as a result of inadequate calcium and vitamin D supply, which may reduce the growth of bone tissue and cause a decrease in bone mineral density. Correspondingly, fractures are frequent among vegetarians.

There are also other issues surrounding vegetarianism that do not relate to health. Truth is, when you decide to become a vegetarian you voluntarily decide to miss out on a lot of food and a lot of experiences.

To sum up, we can simply agree that there are contradictory rumors about vegetarianism due to the lack of accurate knowledge about this unusual diet. No one can simply tell you if becoming a vegetarian is the best choice for you or not. You need to do your homework, research on the vegetarian lifestyle, and absorb a complete full image of its advantages and disadvantages before deciding to become a part of it.

References

- <http://www.health.harvard.edu>
- www.healthremarks.com
- <http://vegetarian.procon.org/>

By: Moataz Abdelmegid

Vegetarianism is the practice of following a strict nutritional diet that avoids eating all sorts of meat, fish, and poultry. Veganism, on the other hand, is a higher degree of vegetarianism that includes abstaining from eating or using all animal products, including milk, cheese, other dairy items, eggs, honey, wool, silk, or leather. People become vegetarians for many different reasons among these reasons are health, environmental, and ethical concerns, dislike of meat, non-violent beliefs, and compassion for animals.

AL-ZAHRAWI: The Father of Surgery

By: Dr. Mohamed Soliman
Director, Manuscripts Museum

There is no doubt that the main purpose of all the sciences Man has discovered, studied, and developed is the service of humankind; this is even more evident in the fields that deal with human health, such as medicine and pharmacology with all their branches. During the Golden Age of Islamic civilization, Arab scientists contributed greatly to these sciences.

A most famous and well-known case in point is the Andalusian Physician Albucasis, Abu al-Qasim al-Zahrawi (died 1037), who is considered the Father of Surgical Medicine due to the fact that he was the first surgeon to use surgical threads made from feline intestines, applying a correct scientific methodology.

Albucasis is attributed for the invention of surgical tools that are still in use to date with their original design, including spatula tongue depressor, teeth extraction tools, bone saws, scalpels, tweezers of all kinds, just to name a few among hundreds of tools. He also described each tool accurately, explaining how it is to be manufactured and used.

Not to mention the strict rules and procedures Albucasis set for surgery, which he detailed in his book, *al-Tasrif*, that is divided into thirty chapters where he tackled three main themes: diseases and anatomy; medicines and medications; surgery and its arts. This book was translated into many languages since the beginning of the 12th century, ending with the French translation in the 19th century at the hands of French Orientalist, Lucien Leclerc (died 1893).

Moreover, Albucasis pioneered the manufacture of medicinal pills and their molds; as a matter of fact, he dedicated the 28th chapter of his book, *al-Tasrif*, to the reverse printing of writings on pills to make them readable, and that was before printing was introduced by the German Gothenburg (died 1468).

The truth is, Albucasis' inventions are countless and cannot possibly be compiled in this brief space. I would just ask you to think of him whenever you see a "syringe"; an essential tool we cannot live without today that he invented and that, incredible as it may seem, is just a drop in this man's ocean of knowledge and repertoire of contributions to humankind.

Albucasis' writings had been the principal reference for Arab and European physicians for hundreds of years at a time when the European church prohibited the teaching of surgery in schools of medicine and considered surgeons to be heretics, claiming disease to be a punishment from God that should not be cured.

That is why medicinal science in general, surgery in particular, owe so much to the Arab Civilization, leading German Orientalist Zigrig Honke to state the following in her book "Allah's Sun over the Occident": "This particular branch owes its progress and rise to the Arabs. They alone are attributed for the elevation of this great art to the level it deserves and its continuation."

Albucasis is also the first to describe a catheter surgery, inventing its concept and tools. He is also responsible for highlighting the importance of connecting arteries during surgical procedures to avoid hemorrhaging, and so much more of what was attributed to Western physicians who followed him after hundreds of years.

Not only Albucasis who had left behind an impressive scientific heritage among Arab physicians, many Muslim physicians contributed greatly to the field. One great example is Ibn Sina (died 980), also known as Avicenna, who is the author of the *Canon of Medicine*, a book the translations of which had been global medicinal references for centuries, being taught in Western universities up until the beginnings of the 19th century.

We must also acknowledge Ibn al-Nafis (died 1213), Chief Egyptian Physician, who discovered pulmonary circulation, the theory of which continued to function as reference to scientists until the discovery of systematic circulation. He was one of the most important pioneers in the field of human physiology.

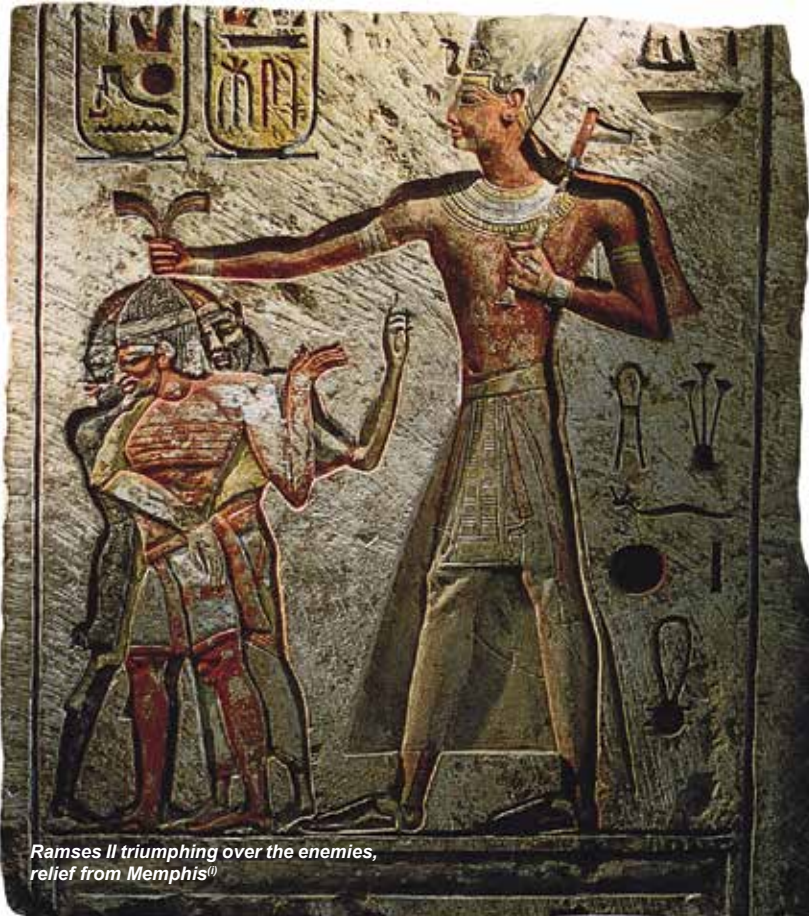
It would not be correct to end this article without mentioning one of the greatest physicians humankind had ever yielded, as indicated by Zigrig Honke in her book, Abu Bakr al-Razi (died 923), the author of *Al-Hawi*, which continued to be taught in the West for almost four centuries, and in which he compiled the medicinal knowledge from Greek times.

All that, as we always emphasize, is nothing but a mere brief glance at sparks of what the Arab and Islamic civilization had contributed in its Golden Age to humanity. There are hundreds of other scientists, in different scientific fields, that we cannot possibly amass here but whom we will try to mention a few of in future articles.



I, YOU, AND THE OTHERS

By: Gamal Hosni
Director, Art Exhibitions and Collections



Ramses II triumphing over the enemies, relief from Memphis⁽ⁱ⁾

Ever since the beginning of times, Man has always sought to represent himself in various ways. We can trace back the appearance of human representation on the walls of prehistoric caves.

At that time, drawings show men in hunting scenes chasing wild animals, triumphing over them. At this early stage of human evolution, the aim of these drawings was hardly decoration. Hunting scenes showing gangs of men surrounding a large animal and working their weapons into it were supposed to help men achieve their goal hunting the animal.

For them, it was as if representing what they wished for would help make it occur in reality. The representation was thought to have magical effect on real events. The reproduction of the form of the self, as well, was a way for Man to emphasize his presence during a short life span. It was

his way to tell the universe: "I was here"; a wishful trial against destiny's erasing hand.

The Ancient Egyptians' legacy is a rich source of human representation showing men and woman during various scenes of daily life. While Pharaohs, kings and queens are shown triumphing over enemies, offering libations to the gods or just standing or sitting solemnly, revealing their omnipotent status and gazing to infinity.

In paintings and wall reliefs, the style was very distinct. Ancient Egyptian artists chose to represent the human body from the side view for the lower part from the waist down to the feet, while for the upper body part, they drew the torso from a frontal view. Once again, face is of side view, eye frontal. This was naively interpreted by some to be due to a lack of rendition abilities of the ancient artists, a grave erroneous belief.

This amazingly free interpretation reveals, if ever, reveals the advanced level of creativity and free thinking of the ancient Egyptian artists. They deliberately altered perspectives to render the human form from the best angle for each part of the body; thus, attaining an eagerly sought after level of aesthetic perfection.

The abilities of the artists for life-imitating drawings are proven through much evidence of less orthodox representation on sketch-like figures on papyri and ostraca where the artists used to practice. In such representations, artists expressed themselves freely and demonstrated their skills in lively renditions of the human body that was not tolerated for formal temple and funerary scenes.

Here again art uses the representation of the human body used instrumentally to serve a message that man wants to communicate to his fellows. The king is great; he is in the most perfect form, bigger than anybody else and dwells in the company of the gods. It is marketing in its most modern sense.



Rock art in Leliekloof, Eastern Cape, South Africa. Processions of people are typical of dancing scenes associated with altered states of consciousness. The sheep and dogs indicate that the paintings are less than 2000 years old. Photo: Janette Deacon⁽ⁱⁱ⁾



Black ink sketch on a potsherd from Ramesside period (fig.37) picturing a naked girl tending a hot baking oven. She is stooping down, blowing up the fire and, unusually, her breath is indicated. An inscription in hieratic above states that her "head is towards the chamber" and she is "blowing into the oven". This piece is an outstanding example of the quiet humour found in humble subjects on figured ostraca⁽ⁱⁱⁱ⁾

References

- (i) <http://blogs.getty.edu/iris/werner-herzog-jean-clottes-and-the-origins-of-art/>
- (ii) <http://www.veteranstoday.com/wp-content/uploads/2012/03/Ramses-II-relief-from-Memphis.jpg>
- (iii) dc355.4shared.com/doc/24urcIVV/preview.html

Exploring the Human Civilization Enigma

EPISODE
2

By: Dr. Omar Fikry
Head, Planetarium Section
Planetarium Science Center

The fat, the short, and the tall have raised many questions inside your head about planet Earth, the development of life on it, and the whole human civilization issue. This issue that has aroused your curiosity to research, read, and ask yourself: how has this civilization developed and changed through the years?

After they had disappeared when the door was opened—because they do not want to meet anybody but you—you get up excited searching for them after the door was closed again; you look under your bed, inside your closet, behind your desk, behind the curtains, but there is no trace of them. You go back to sleep, but you cannot because of what you have seen.

You wonder where they have gone. Was I hallucinating? Was that a dream? Suddenly, you shudder violently as you see them attached to your bedroom's ceiling without exerting any effort, without even touching the ceiling, their color changed from green into orange, scaring you even more.

You sit looking upward, trying to talk but you cannot; they are the ones who started the conversation. The tallest begins to talk with a smile on his face: Hey friend, don't

you want to come up? You answer his question by another question, ignoring his strange request: Where did you go? And how did your color change?

The shortest answers in his funny robot-like way: We did not go anywhere; you are what we want. We picked you randomly and we cannot leave you without completing our mission. The fattest looks at his friends and notices the change in their color; he alerts them with a strange signal with his left foot and they return again into green. However, they stay attached to the ceiling so you continue asking: What happened? How did you change your color like that? And what is the mission that you have been sent here for?

The tallest answers interestingly: We love your planet; we want you to be reasonable again and inhabit this beautiful blue home as members of one herd. You interrupt him refusing this description: Hey, hey! We are humans, the finest creatures on Earth; we cannot be described as a herd.

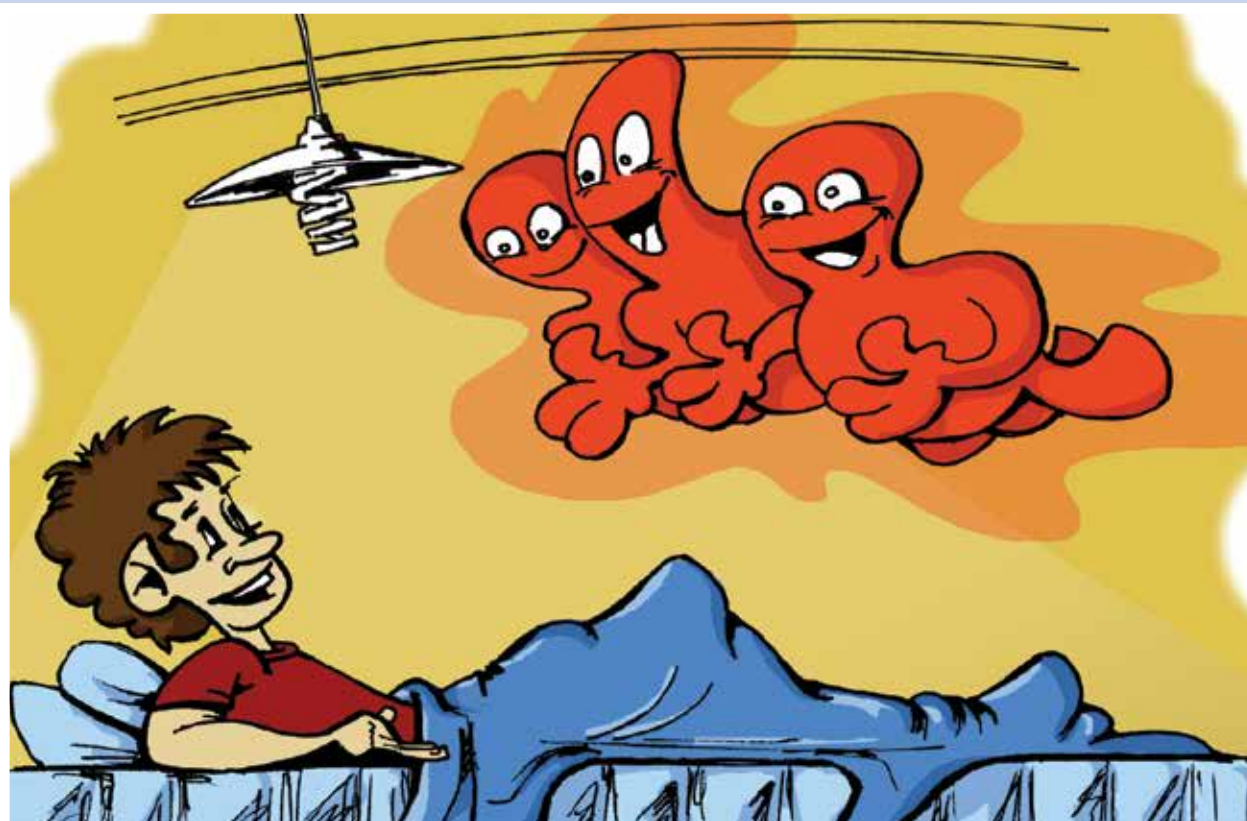
The fattest interrupts refusing your objection: Oh beautiful human, we do not mean to insult you. My friend talks figuratively, referring to the balance in the lifestyle of some herds; they live in harmony with nature and this lifestyle has not led—as you can see—to your extinction. Your

behavior, on the other hand, is what leads to the extinction of many of them.

The shortest interrupts, addressing the fattest: You are right. If mankind continues like this, they will definitely face extinction. You ask him indignantly: How can mankind cause the extinction of mankind? And please come down because my neck hurts and you still have not answered my question about the change of your color.

The tallest answers: We are special creatures, and we have this advantage, in addition to other advantages you may see as supernatural. We are all in good health and our planet has not experienced any kind of illness or weakness like yours. You humans—the inhabitants of the blue planet—have not followed the simplest rules to maintain your species' health.

You ask sarcastically: How is that? There are reasons beyond our control that affect the "human health". The tallest tries to calm you down: Calm down my friend; we are just chatting with you and you are right about the reasons or the causes that may affect the health. We can state some of them: environmental factors for example—even though they are natural—such as geographical conditions or the elevation above sea level; geological conditions like the soil type, which



defines the kind of food, water, weather, humidity and wind direction; all these factors can lead to some seasonal diseases.

You are astonished by his talk and your astonishment increases with the rotation of the shortest around himself vertically. The tallest becomes silent, giving the fittest a chance to talk; you understand that what has just happened is their language to communicate with each other.

The fittest speaks: Do not forget the geological environment, as well as the social and the cultural environment such as the population, its distribution, and the educational level, which affect their health awareness, health behavior, the spread of diseases, the ways to avoid them, and the coordination between you to combat them.

You answer, forgetting about the change in their color, addressing them as if they were humans like you: I agree completely with you; "human health" is also affected by the nutritional level, nutritional methods and types. Speaking of nutrition, do you eat and drink like humans?

The fittest replies: Never, we do not eat or drink. You answer with astonishment, teasing them; your fear gone: If you do not eat or drink, why are you so fat? And that tall one, why is he so thin? The tallest answers: Being fat or thin on our planet is not related to nutrition; we can change our looks as we wish. Just as we change our color, we can change our form; do you want to see? His offer scares you so you answer: Not really, it might be better to continue what I was saying, which you may already know.

You tell them the information you know: Nutrition has a great influence on a person's health, whether young or old. That is why this issue is the focus of nutrition specialists and those who are responsible for children's health, "human health", and international health generally on our planet. It has become clear to them that most communities do not know the correct approach to nutrition, leading to weak generations that suffer from malnutrition diseases, such as rickets, osteomalacia, tooth decay, scurvy, beriberi, eye crust, and anemia.

That is why great efforts in most developed countries have been directed to providing meat, poultry, milk, eggs, fish, fruits and vegetables, as well as decreasing their prices to be available for the poor, in order to avoid diseases and to develop the health levels for all society members.

You stop talking abruptly as the three of them look towards the window.

Planetarium

Available Shows

Stars Show

45 min. Live Show by the PSC Resident Astronomer

Oasis in Space

25 min. Full-dome Show

Stars of the Pharaohs

35 min. Full-dome Show

Seven Wonders

30 min. Full-dome Show

The Life of Trees

33 min. Full-dome Show

Kaluoka'hina

35 min. Full-dome Show

Mystery of the Nile

45 min. IMAX Show

Cosmic Voyage

35 min. IMAX Show

Visitors INFO

- For the Planetarium daily schedule and fees, please consult the Center's official website: www.bibalex.org/psc
- Kindly note that, for technical reasons, the Planetarium maintains the right to cancel or change shows at any time without prior notification.

History of Science Museum

Visitors INFO

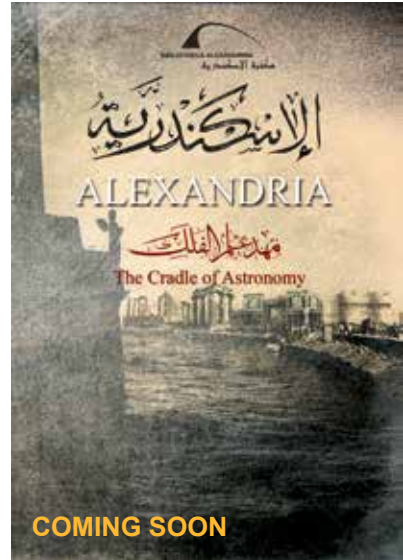
Opening Hours

Saturday to Thursday:
[10:00–15:00]

Guided Tours Schedule

Saturday to Thursday:
[10:30, 11:30, 12:30, 13:30, 14:30]

- Museum entry fees are included in all Planetarium shows tickets.
- For non-audience of the Planetarium, Museum entry fees are EGP 2.-
- Museum Tours are free for ticket holders.



COMING SOON

ALEXploatorium

Visitors INFO

Discovery Zone

Opening Hours

Saturday, Sunday, Monday, Wednesday and Thursday: [9:30–15:30]
Tuesday: [9:30–12:30]

Guided Tours Schedule

Saturday, Sunday, Monday, Wednesday and Thursday:
[9:30, 11:00, 12:30, 14:30]
Tuesday: [9:30–11:00]

Entry Fees

Students: EGP 5.-
Non-students: EGP 10.-

Listen and Discover

- For the list of shows available at the "Listen and Discover" and the schedule, please consult the Center's official website: www.bibalex.org/psc.
- For reservation, please contact the PSC Administrator, at least one week before the desired date.

Show fees

DVD shows:
Students: EGP 2.-
Non-students: EGP 4.-
3D shows:
Students: EGP 5.-
Non-students: EGP 10.-
4D shows:
Students: EGP 10.-
Non-students: EGP 15.-

I recommend a warm, loving bedtime routine and then putting your baby in bed awake, leaving him even if he cries



WHAAAAAAA!
WHAAAAAAA!



HUH?!



keep your baby next to you at all times in your arms or in a baby carrier, to co sleep, and to nurse your child for comfort whenever he cries or a toddler asks

