

Medicine and Public Health
In
Nahj Al-Balaghah

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The Center's Introduction

In the name of Allah the Merciful

Praise be to God, Lord of the worlds, and prayers and peace be upon the Seal of the Prophet Muhammad and his household the guides.

Medicine is an ancient profession as old as man himself. It was initially associated with magic, sorcery and quackery in ancient times and primitive societies, where it was practiced by priests and magicians, and then progressed with ancient civilizations in Mesopotamia, Egypt, India and China until the paradigm shift occurred in a time The Greeks and the emergence of Hippocrates (one of the most famous doctors throughout history), Galen and others.

With the advent of Islamic civilization, there were general references in the Holy Qur'an and the hadiths of the Noble Prophet and the Commander of the Faithful, may God's prayers and peace be upon them, about maintaining public health, and then the experimental scientific practice of scientists developed Medicine began to take its well-known form today through the work of great scholars and doctors such as Ibn Sina (the chief Sheikh who was known to be the first researcher in the field of psychiatry and the first to give medicine by syringe and many more) and Ibn al-Nafis (discoverer of the microcirculation) and Al-Zahrawi and Al-Razi, and many others whose books and works were studied in various parts of the world until the seventeenth century AD, paving the way for the subsequent great developments that occurred with the emergence of the Renaissance in Europe, and then the Industrial Revolution , up to the present times, which led to major developments in all sciences, especially medicine and public health.

Health from the Islamic perspective is seen as a human necessity and a basic need for every person. Its causes, and prevention, and for that, Islam laid down the general rules to ward off harm to human health and preserve his life.

From these concepts, the author Professor Dr. Yahya Al-Sultani set out to embody the hadiths of the master of eloquence and the emir of the eloquent Imam, the Commander of the Faithful Ali bin Abi Talib, peace be upon him, in the topics of medicine and public health in its general principles through his understanding of the Qur'an and the Prophet's Sunnah and its practical application, and through the methods and methods of treating some physical diseases. And the psyche by means of herbs, flowers and fruits, and he is not satisfied with talking about man, but extends him to animals, plants and the environment, and he mentioned the benefits of some foods and warns about some of them in special sick cases.

Many golden opinions on the science of medicine have been reported on the authority of the Imam, peace be upon him, indicating his comprehension of this science and his complete knowledge of its secret, He is the one who says about the amazing organs and systems that the human body contains:

"Do you think that you are a small crime and in you is the greater world involved?"

Your medicine is in you and what you see, and your medicine is from you and what you feel"

Therefore, the Imam Amir al-Mu'minin (peace be upon him) Center for Specialized Studies and Research worked to print and publish this book in the English language - because it is printed in Arabic - and the center aims to spread this immortal travel to various parts of the world in order to spread the thought and

heritage of the Imam, the Commander of the Faithful (peace be upon him) on the one hand, and to be Benefit to the individual and society because of the useful and effective medical advice for public health on the other hand.

And the God of the intent behind.

Imam Amir al-Mu'minin, (peace be upon him), Center for Specialized Studies and Research

Al-Najaf Al-Ashraf

Introduction

All praise is due to Allah, Lord of the worlds and may Allah pray upon the best of his creation the good and pure Muhammad and his household.

With that in mind, the book “**Medicine and Public Health in Nahj Al-Balaghah**” came as a try to rejoin the religious texts and the modern scientific concepts, which reflected the existence of texts with explicit scientific significations that included rules and principles of medicine and related medical sciences and they’re applicable in each time and place.

The readers have admired the Arabic edition of the book as all editions were sold out of the market in no time. So, it was translated into Farsi and to complete the desired benefit we decided to translate it into English in order to be a source of knowledge for the English speakers.

We have done our best to preserve the meanings and to keep the authentic meanings of texts, so we hope that we were successful in presenting what’s beneficial for the readers in this field of knowledge and from the Almighty we derived support and assistance.

We wish to thank Mr. Nebrass Farfoor for his assistance in typesetting the manuscript of this book. And from Allah we derive help and success.

Translators

Prof. Dr. Yahya Kadhim al-Sultani

Prof. Dr. Ali Abdulzahra Al-Fahham

Introduction of Author

Praise be to Allah and best prayers be upon the Chosen prophet Muhammad and his household the guides.

We have depended in preparing this book on a short scientific research that was entitled: “Medicine and Public health in Nahj Al-Balaghah book” that was written in response to an honorable invite from the organizing committee of the international scientific conference about Nahj Al-Balaghah book which was hosted by the Basic Education College and Al-Kufa research center in Al-Kufa University between 27 and 28 March 2011, and on another scientific research that was entitled: “Health Conceptions in Nahj Al-Balaghah book” which was shared in the international conference of Al-Qasab center of cultures in Al-Najaf city that had the title: “The holy Al-Najaf, a capital of culture, science and knowledge for a thousand years” and it took place between 17 and 19 November 2011.

And just like how the author was asked to write the first research in particular, friends and dear ones expressed their wishes to extend the previous researches and to create a book from them that is broader and more extensive.

Therefore, you have this book, dear reader, which explores the strong bond between this eloquent course (Nahj Al-Balaghah book) and the medical and health sciences to shed lights on the extended knowledge of Imam Ali (peace be upon) him and his perseverance to fathom the secrets of all affairs of life.

Despite having many studies, researches and books generally, talking about its medical and health sides needs more studies and researches.

In addition to depend on Nahj Al-Balaghah book to show the wisdom and orders related to scientific sides, we have also depended on the wise sayings and commands of the Imam peace be upon him which were narrated in a few other sources, and from another side, the sayings of the Imam were supported and assisted with the clear verses of the holy Quran and of the holy sayings of the prophet and that's to confirm the strong bond between Nahj Al-Balaghah book and the clinical knowledge.

Medicine is a noble human profession that includes various sciences. However, Health is defined by the World Health Organization as: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

And it is a holy field of knowledge in all religions and it has a respected position by Allah exalted and glorified be He and all people because it aims at saving people from the afflictions of illness and provide recovery for them, and medicine was connected to religion to a great extent even the Divine religions showed their interest in medicine through what was mentioned in the holy books about this kind of scientific knowledge.

For example, there were many messengers and prophets who practiced medicine and showed a big interest in it like: Idris, Job, Solomon and Jesus peace be upon them. As for Muhammad may Allah pray upon him and his household, he used to treat himself and he ordered his sick household and companions to do that and Dr. San Giorgio Darilano who was one of the major medical experts in the French history said: "It's correct to say that Muhammad wasn't just the first physician in Islam but rather he was the first one to author an excellent medical book which was called the Prophetic medicine".

That was the case with the Commander of the Faithful Ali peace be upon him who was very interested in medicine and he put through Nahj Al-Balaghah book the first seed of the creation of the medical and clinical sciences for the people who came after him and his sons and grandsons who were the Imams (leaders) peace be upon them took from him until they became the masters of the medical fields beside the fields of jurisprudence and interpretation of the Quran. So, it is safe to say that Nahj Al-Balaghah book with The Prophetic medicine book have laid the corner-stone of creating the medicine of Ahlulbayt (the household of the prophet).

We have interpreted the sayings of the Imam peace be upon him according to the information of modern medicine and we explored that in a simple way that is far to some extent from the complex medical terms that might be hard to understand by the Non-specialist reader.

Also, I have used a way of writing that suits the present time so the dear reader can notice the genius of the Imam who died 14 centuries ago and yet his wise sayings and commands are still being studied in scientific researches and they will remain the lantern which we use for guidance in the course of research and studying.

At the end, I must present my great thank for my dear brothers: Dr. Ali Ibraheem Rahim who is a teacher in the faculty of medicine, and Dr. Abdelkarim al-Naffakh who is a teacher in the Technical Institute of al-Najaf for their valuable notes during the preparation of the draft of the book.

I also have to thank my son Sayyed Sameer Yahya al-Sultani who is a teacher of biology in the Public Department of Education of Al-Najaf governorate for typesetting the book.

I hope that I was successful in doing that and Allah is the grantor of success.

Professor Doctor

Yahya Kadhim al-Sultani

Al- Najaf Al-Ashraf : 23-1-2012

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**A Short Biography
about Imam Ali**

A preface

As long as Nahj Al-Balaghah book was coupled with the name of Imam Ali peace be upon him then we have to introduce these two scholarly names, even very briefly, so that they become coherent explanatory to this study.

Imam Ali (peace be upon him)

What shall I write about him? Isn't it enough that he is Imam Ali peace be upon him, the man who gathered characteristics that no other man had? He is Ali ibn Abu Talib ibn Abdulmutallab ibn Hashem ibn Abdulmunaf ibn Qusai the Sheikh (chief) and head of Mecca.

As for his mother, she is Fatima bent Assad ibn Hashem ibn Abdulmunaf ibn Qusai. So, Imam Ali was the first Hashemi who was born from two Hashemi parents.

Al-Jahiz described the clan of Hashem (Banu Hashem) by saying: (They are the salt of the earth, the decoration of the world, the jewelry of the realm, the biggest hump, the greatest shoulder, the core of every noble essence, the secret of every honorable element, the white clay, the blessed plantation, the authentic origin, the core of understanding, the spring of knowledge).

His Birth and life

The Imam peace be upon him was born in the holy Ka'ba in the holy Mecca on Friday 13th of the month of Rajab after the Elephant year by 30 years and it was the 17th of March 599, and the prophet was 30 years old at that time.

Imam Ali spent 33 years with Allah's messenger may Allah pray upon him and his household but the duration of his Imamate

(government) and life after the prophet was 30 years and he was the Caliph for 5 years and 6 months.

He, also, was the first one to believe in Allah's messenger and his prophethood and he was raised and reared by him.

His wives and sons

Imam Ali married nine women and Fatima Al-Zahra peace be upon her the daughter of the noble prophet Muhammad was his first wife and he didn't marry another woman except after she died and he had 11 sons and 16 daughters from his nine wives.

Some of his characters

We will mention some of the most important characters of Imam Ali:

1. He was the first to be born in the Ka'ba and it's a rank that nobody ever reached.
2. He was the first man to accept Islam and to believe in the message of Islam after prophet Muhammad.
3. He was the first who added points to the Arabic letters of the Quran.
4. He was the first who established the basics of the Islamic calligraphy.
5. He was known among Muslims for his eloquence and wisdom.

Also, he is considered the most important Islamic scholar for his knowledge and jurisprudence, and the noble prophet Muhammad said about him: "I am the city of knowledge, and Ali is its door", and on the other hand, Imam Ali used to say: "Allah's

messenger taught me a thousand door of knowledge and from each door a thousand doors were opened”¹.

His Martyrdom

Ali peace be upon him was martyred on a Friday night in the 21th of the month of Ramadan in 40 Hijri which was the 22th of January 661 in his prayer niche in Al-Kufa mosque at the age of 63 and he was buried in his holy shrine in the holy Najaf.

What people said about Imam Ali

So many people talked about Imam Ali ibn Abu Talib peace be upon him through ages, times and from various religions and sects.

1. Gibran Khalil Gibran² said about him: “Ali ibn Abu Talib died as the martyr of his greatness. He died and the prayer was between his lips, and in his heart was the longing to his Lord, and Arabs haven’t known the reality of his rank and excellence”.
2. Mikhail Naimy³ said: “Ali is one of the masters of intellect, spirit and eloquence in every time and place”.
3. George Jordac⁴ described Imam Ali by saying: “Ali ibn Abu Talib was one of the rare peerless whom I knew their reality away from the traditional horizon on the basis of which we were taught to study our men and history, and I knew that the core of their greatness came from their absolute belief in the human dignity and their holy right to live a free honorable life”.

¹ Kashf Al-Ghumma V. 1 P. 130.

² A famous Lebanese poet and philosopher, known for his books: “Spirits Rebellious”, “Broken Wings” and “The Tempests”. Born in Bushri, Lebanon and died in 1931 in New York.

³ A very famous Arabic thinker, poet and a storyteller. Born in Baskinta, Lebanon in 1889 and died in 1988.

⁴ A famous Lebanese poet, known for his book: “The Voice of Human Justice” which has 6 volumes. Born in Marjeyoun District in the south of Lebanon in 1931.

4. Shibli Shumayyil¹ said: “The great conscience of Imam Ali ibn Abu Talib is the greatest of the great and it’s a peerless copy that neither the East nor the West have seen a duplicate of it, neither anciently nor recently”.
5. Būlus Salāmah² said about Imam Ali: “A man whose name is mentioned by hundreds of millions of people in the East and West five times a day, Christians mention him in their gatherings and they follow his wisdom and become pious for his fear of God, and the apathetic mention him in their Monasteries and thus they increase their asceticism and religiousness, and the thinker looks at him and he seeks light by following this brilliant leading personality, and the brilliant writer looks at him and follows his eloquence, and the knowledgeable jurist depends on him and seeks guidance by following his rules”. And He wrote about him in his immortal epic: “O Heaven, witness! O Earth, submit.... and humble yourself for I have mentioned Ali. He is the honor of history, not of some people.... who claim to follow him as a leader.”
6. Suleiman Kittani³ the author of “Imam Ali a Lantern and a Resort” said: “Ali is honesty itself in the human thought... and he is the source of all great human messages on the face of the Earth”.
7. Ibn Abu Al-Hadid⁴ said: “Look at the eloquence how it gives this man its bridle and makes him its controller. So, exalted

¹ A Lebanese doctor who was among the first who called for an Arabic reformation born 1850 and died in 1917. He studied Medicine in Paris and lived in Egypt.

² A Lebanese writer who was born in 1910 and died 1979 and he wrote so many poems to praise Ahlulbayt.

³ A scholar of thought and literature of a Lebanese origin, born in USA in 29 February 1912 and died in Lebanon in 29 February 2004 and beside his mentioned book, he had so many books about Ahlulbayt.

⁴ He is Abu Hamid, Abdulhamid Ibn Hibatullah ibn Abu Al-Hadid the Mu'tazili, born in Al-Madaen city in 586 Hijri which is 1190 A.D and died in it in 656

be Allah who gave this man these valuable merits and noble characteristics, that a young man who is a son of the Arabs of Mecca and who didn't interact with the wise, yet he became more knowledgeable of wisdom than Plato and Aristotle and he didn't live with the masters of creationist wisdom, yet he became more knowledgeable of this field than Socrates, and he wasn't raised among the brave because the people of Mecca were merchants, yet he became the most courageous man ever walked on the Earth”.

8. Al-Jahiz¹ said: “I heard Al-Nazzam saying: Ali ibn Abu Talib is a strife for the speaker, if he gives him his right then he has exceeded, and if he doesn't give him his right then he has undervalued him, and the middle position is very light, sharp on the tongue and hard to get except for the smart expert”.
9. Doctor Taha Hussain² said: “The difference between Ali and Muawiya was great in the biography and politics since Ali believed in Caliphate and though that the right thing to do is to establish justice in its broadest meanings among people. However, Muawiya didn't have a problem or offence with that. So, greed people found what they wanted with him and apathetic people found what they liked with Ali”.³

Hijri which is 1258 A.D, and he is famous for his commentary on Nahj Al-Balaghah book.

¹ Abu Uthman Amr ibn Bahr ibn Mahboub Al-Kinani Al-Basri who was among the top masters of literatures at his time and he was born in Al-Basra in 159 Hijri 776 A.D and died in 255 Hijri 878 A.D.

² He is famous as the dean of the Arabic literature and was born in 1889 and died at the age of 84 in 1973.

³ The Major Strife: Ali and his sons P.59.

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What is Nahj Al-Balaghah?

Nahj Al-Balaghah book

Al-Sharif al-Radi have gathered and arranged Nahj Al-Balaghah book in its current shape and he finished that in 400 Hijri as he stated at the end of the book.

He, also, said in his introduction: “I was in the bloom of my youth, and I was like a fresh bough and I started writing a book about the characteristics of the Imams peace be upon them which includes their best narrations and the jewels of their sayings, and I was motivated to do that by a purpose that I mentioned at the beginning of the book and I made it the Imam (leader) of the speech”.

“I finished writing about the characteristics of the Commander of the Faithful Ali peace be upon him and the obstacles of day and the stalling of time prevented me from finishing the book, and I have arranged the outcome of it into categories, and split it into chapters, and at the end of it came the chapter which includes the best of what was narrated from him peace be upon him of the short sayings of proverbs, preachments, exhortations and teachings without the long sermons and extensive letters, and a group of friends liked what the mentioned chapter included, as they were amazed by its superb and wondering of its remarkable, and then they asked me to start authoring a book that includes chosen sayings of our Master the Commander of the Faithful peace be upon him in all its kinds and various branches including sermons, letters, preachments and teachings”.

“Bearing in mind that it includes the wonders of eloquence, the remarkable fluency, the jewels of Arabic and the sharp religious and earthly speeches, what weren’t gathered in a speech and the sides of which aren’t collected in a book since the Commander of the Faithful was the spring and source of fluency, and the origin of eloquence and its generator, and from him peace be upon him its hidden appeared, and from him its laws were taken and his proverbs, every fluent speaker, followed and with his speech every eloquent preacher sought help”.

“Yet, he preceded and they delayed and he outran and they were late because his speech peace be upon him is the speech which has a stamp of the divine speech, and it includes a touch of the prophetic speech”.

“I noticed that his speech peace be upon him can be divided into three categories:

The first: Sermons and Commands.

The second: letters and messages.

The third: Preachments and proverbs”.

“So, I decided with Allah’s support exalted be He to start with choosing the best sermons, then the best letters and then the best preachments and proverbs and I have specified for each type of that a chapter and dedicated pages for that, so that it can be a first step to get what I might forget soon or remember later”, until he said: “And I saw after that to call this book The Course of Eloquence (Nahj Al-Balaghah) since it opens for the seeker its gates (of eloquence) and brings its suitors closer to it and it contains the goal of the learner and the teacher and the target of the fluent and the apathetic, and it contains inside it the wonderful speeches about the Oneness of Allah and justice and exalting Allah exalted be He from being similar to creation, that satisfies every need, cures every sickness and removes every suspicion”.¹

Nahj Al-Balaghah (The Course of Eloquence) was named by al-Sharif al-Radi because of the strong eloquence and the fluency of the tongue of Imam Ali peace be upon him when compared to the rest of language during his time, although the time of the Imam was known for its linguistic advancement. The name is in harmony with the general definition of eloquence which is “to brief and defeat”.

The Commander of the Faithful described Eloquence greatly by saying²: “Eloquence is what is easy to say and to understand”, “Eloquence is to answer without delay and to be right without

¹ Nahj Al-Balaghah P.33-36.

² Hidayat al-Elm fi Tanzem Ghurar al-Hekam P.82.

mistaking”, “Brief eloquence is enough” and “The organs of eloquence are a wise mind and a talking tongue”.

The Eloquent Course (Nahj Al-Balaghah) attracts a big portion of the interest of researchers and thinkers regardless of their different religions and its commentaries have reached more than seventy¹.

It’s worth mentioning that there were twenty-two people who wrote the sermons of Imam Ali before the time of al-Sharif al-Radi like al-Sakuni, al-Waqidi, al-Madaeni, al-Manqari, al-Harrani etc.²

Nahj al-Balaghah book included 240 sermons and command, 79 letters and messages and 468 short wise saying and preachments.

One of the simplest explanatories and interpretations is “The explanatory of ibn Abu Al-Hadid”³.

Scholars and researchers are still interested in fathom the depths of Nahj al-Balaghah book which was translated into many languages, and until now nearly 15 translations were printed of it, and in general Nahj al-Balaghah includes **four parts**:

The first part: Includes the introduction of al-Sharif al-Radi in which he explained the reasons he gathered the book and the way he categorized its topics.

The second part: Includes the sermons of Imam Ali and a group of sermons the Commander of the Faithful recited for people and the commands he issued to them.

The Third part: Includes the letters and messages which the Imam sent to the rulers he appointed in all countries or to his enemies.

The fourth part: Includes the books of the Commander of the Faithful and it includes some quotes of the sayings, preachments and advices of the Imam.

¹ Talkhis al-Bayan fi Majaz al-Quran by al-Sharif al-Radi P.90-92.

² Nahj al-Balaghah P18, Ma Hwa Nahj Al-Balaghah P.90-92.

³ Bahj al-Sabagha fi Sharh Nahj Al-Balaghah V.1 P.23.

Al-Sharif al-Radi

His birth and lineage

He is Abu Al-Hassan Muhammad ibn Abu Ahmad al-Hussain ibn Musa ibn Muhammad ibn Musa ibn Ibrahim ibn Imam Musa al-Kadhem peace be upon him, he was born in Baghdad in 359 Hijri. His mother was Fatima bent al-Hussain ibn Abu Muhammad al-Hassan ibn Ali ibn al-Hassan ibn Ali ibn Umar al-Ashraf ibn Imam Zain al-Abdeen Ali ibn al-Hussain ibn Ali ibn Abu Talib peace be upon them.

Al-Sharif al-Radi had a famous brother who is al-Sayyed al-Murtadha, and al-Sharif al-Radi died in the 6th of Muharram in 406 Hijri or 1015 A.D, and was buried in his house in al-Karkh, Baghdad.

His life:

Al-Sharif al-Radi learned Arabic, eloquence, literature, jurisprudence, Islamic theology (Kalam), Tafsir (Quran interpretation) and Hadith (tradition of the prophet) by the famous scholars of Baghdad.

In addition to that, al-Sharif al-Radi was a skilled writer and a sharp speaker.

The teachers of al-Sharif al-Radi

Al-Sharif al-Radi was taught by the famous masters and teachers of that time, some of them were the following:

1. Abu Isaac Ibrahim ibn Ahmad al-Tabari the Malki jurist.
2. Abu Ali al-Hassan ibn Ahmad al-Farsi the linguist.
3. Abu Saeed al-Hassan ibn Abdullah ibn Marzaban al-Serafi.
4. Sahl ibn Ahmad ibn Abdullah ibn Sahl al-Debaji.
5. Abu al-Hassan Abdul-Jabbar ibn Ahmad al-Shafi'i al-Mu'tazili.
6. Abu Muhammad Abdullah ibn Muhammad ibn Abdullah al-Asadi.
7. Abu al-Fateh Uthman ibn Janni al-Rumi al-Mosuli.

8. Abu al-Hussain Abdulrahim ibn Muhammad known as: Ibn Nubata.
9. Abu al-Hassan Ali ibn Issa al-Ramani al-Baghdadi the linguist.
10. Abu Hafis Yahya ibn Ibrahim al-Katani.
11. Abu Bakr Muhammad ibn Musa ibn Muhammad al-Khawarzmi.
12. Abu Al-Qasem Issa ibn Ali ibn Issa ibn Dawood ibn Jarrah.
13. Sheikh al-Mufeed, Muhammad ibn Muhammad ibn al-Nu'man.
14. Abu Abdullah ibn Imam Mansouri the linguist.

His students

Some of the students of al-Sharif al-Radi were the following:

1. Sheikh Abu Ja'far Muhammad ibn al-Hassan al-Tusi.
2. Sheikh Ja'far ibn Muhammad al-Douristi.
3. The judge Abu al-Ma'ali Ahmad ibn Ali ibn Qudama.
4. Abu Mansour Muhammad ibn Abu Nasr Muhammad al-Akbari.
5. Sheikh Abdulrahman ibn Ahmad ibn Yahya al-Naisbouri.
6. Abu Zaid Abdullah ibn Ali ibn Abdullah al-Hussaini Al-Jarjani.
7. Abu Bakr Ahmed ibn al-Hussain ibn Ahmad al-Naisabouri al-Khaza'i.
8. Al-Sayyed Abu al-Hassan Ali ibn Bandar ibn Muhammad al-Hashmi.

His books

In addition to Nahj al-Balaghah, al-Sharif al-Radi had so many books and we will mention some of them:

1. Akhbar Qudat Baghdad (The Stories of the Judges of Baghdad).
2. Talkhis al-Bayan an Majazat al-Quran (Summarizing the Explanation of the Metaphors of the Quran).
3. Al-Hassan min Shi'r al-Hussain ibn al-Hajjaj (The Best of the Poetry of al-Hussain ibn al-Hajjaj).

4. Haqaeq al-Ta'wel (The Realities of the Allegorical Interpretation).
5. Al-Majazat al-Nabawyyah (The Prophetic Metaphors).
6. Ma'ani al-Quran (The Meanings of the Quran).
7. Khasaes al-Aymma al-Ethnai Ashar (The Merits of the Twelve Imams).
8. Ta'leq Khilaf al-Ulama' (A Commentary on the Disagreement of the Jurists).
9. Sirat (A biography of his father al-Sharif al-Tahir Abu Ahmad al-Hussain).
10. A Collection of poems.

People sayings about Nahj al-Balaghah book

- **Sheikh Muhammad Abdu said about Nahj Al-Balaghah:**

“Truly, the decree of destiny has granted me the chance to read Nahj al-Balaghah book by chance without intending. So, I got it when my situation wasn't stable, my mind was unrest, I had so much things to do and I had a break from my business. So, I considered it an entertainment and an excuse for solitude. So, I read a few pages of it and I reflected on some of its sentences and in each positions, I imagined wars started, raids occurred, and that the eloquence has an authority and the fluency has a power, and that delusions have naughtiness and suspicion has a vice, and that the legions of oratory and the battalions of sharpness, in the arrangements of order and the rows of regularity, fight with the bright tinplate and the straight desert, and the suckling arguments breastfeed the spirits, and thus the vices of doubt are reduced and it kills the devils..”

Until he says: “That respectful book is a collection of what al-Sayyed al-Sharif al-Radi may Allah's mercy be upon him chose of the sayings of our master and lord the Commander of the Faithful Ali ibn Abu Talib may Allah honor his face, he collected its spread and called it Nahj al-Balaghah, and I am not aware of a name that signifies its meaning better than that and I can't describe the book more than its name indicates and I can't bring anything to show its excellence higher than what the chooser brought”.¹

- **Sheikh Abu al-Thna' Shihabu al-Deen Mahmoud al-Alusi al-Baghdadi said:**

“Nahj al-Balaghah is the famous book in which al-Sayyed al-Radi al-Musawi collected the sermons of the Commander, may Allah honor his face, and his books, preachments and wise sayings and it was called (The course of eloquence) because of what it included of the sayings which make you think that it's above the

¹ Sharh Nahj al-Balaghah Muhammad Abduh P.5-7.

speech of the creatures and lower than the speech of the creator exalted and glorified be He. It reached the rank of inimitability, and it created the first truths and metaphors, and congratulations for the poet who said: Indeed, this book (Nahj al-Balaghah) is the course of knowledge and its way is obvious. On climaxes of the household of Harb that were uplifted like a boulder that the flood descended from Ali (High).”

- **Professor Muhammad Muhildeen Abdulhamid said:**

“Nahj al-Balaghah is what al-Sharif al-Radi Abu al-Hassan Muhammad ibn al-Hussain al-Musawi chose of the sayings of the Commander of the Faithful Ali ibn Abu Talib may Allah be pleased with him, and it’s the book which included, between its two covers, the springs of eloquence and it’s arts, and by it the reader gets the means of fluency and its fruits became reachable for him to pick, since it’s from the saying of the most fluent speaker after the messenger, the most gifted, the best in debate, the best director of language, the wisest from whose statement wisdom is issued, and the orator, the magic of whose speech fills the heart, the knowledgeable who had the opportunity to interact with the messenger and to write the divine revelation and to defend the religion with his sword and tongue since he was a young man, what nobody else ever had”.

- **Professor Abbas Mahmoud al-Aqqad said:**

“In Nahj al-Balaghah, there is an abundance of the verses of the Oneness of Allah, the divine wisdom which is useful for everyone who wants to study the beliefs, the origins of Godhood and the wise sayings about the Oneness of Allah”.¹

¹ The Genius of Imam Ali P.12.

- **Professor Amin Nakhla said:**
 “If someone wanted to cure the longing of his spirit to the sayings of the Imam, then he has to read it in Nahj al-Balaghah from the first to the last cover, and he has to learn to walk in the light of Nahj al-Balaghah”.

- **Sheikh Mahmoud Shukri al-Alusi said:**
 “This book, Nahj al-Balaghah, contains the sermons of Imam Ali ibn Abu Talib peace be upon him which are an ember of the light of the divine speech and a sun that shines with the fluency of the prophetic speech”.

- **Dr. Zaki Mubarak said in his book “The genius of al-Sharif al-Radi”:**
 “I think that reading Nahj al-Balaghah book will bring on manhood, chivalry and greatness because it’s a flow of the spirit of a conquer who faced hardships with the determination of lions”.¹

- **Sayyed Hibatullah al-Shahrstani said in his book (What is Nahj al-Balaghah?):**
 “In 1328 in Baghdad, the chief writer of the British counsel Narsisian, who was among the virtuous Armenian, talked to me claiming the superiority of Nahj al-Balaghah over every Arabic speech because it contains so much inimitably simple that can’t be found in other books and the easy handling of hard rhymes without pretending, and he quoted: (Or that who was created in the darkness of wombs and the covering veils as a brimful sperm, then a waning clot of congealed blood, then an embryo, then a suckling baby, then a young child, then a young man and he gave him a seeing eyes, a talking tongue and a memorizing mind etc.”

¹ Abqariat al-Sharif al-Radi V.1 P.223.

He liked the good rhyme and how the final letter runs like a fresh water on the tongue of the Imam, then he said: And if this great orator gets on the pulpit of al-Kufa during our time, then you will see its mosque, despite how big it is, full of European hats moving in waves to absorb from the sea of his rich knowledge.”¹

¹ Ma Hwa Nahj al-Balaghah P.47.

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**The fields of knowledge of
Nahj al-Balaghah
(The course of life)**

The fields of knowledge of Nahj al-Balaghah (The course of life)

The concept of science

Science is defined as: Every kind of knowledges or applications which are related to a certain topic or phenomenon which is treated in a certain method and it ends to form theories and its own laws, and science has broad fields of knowledge that have different methods and purposes.

The concept of science was part of the concept of philosophy which depends generally on thinking and reflecting on the universe and existence through the mind. However, the concept of science was separated through history gradually, and thus each one of the applied and empirical sciences, theory and practical sciences and human sciences etc. were created.

The English word “Science” is derived from the Latin “Scientia” which means knowledge, and science is one of the necessities of life through which nations advance, peoples flourish and life grows.

Imam Ali has eloquent saying in defining science and considering it a superior value in people’s life and he expressed his lasting invitation to learning in his sermons and sayings, and the Imam categorized sciences into various types as he said:

- ❖ “Science has two types: The science of the body and the science of the religion”.¹
- ❖ “Science has three types: Jurisprudence for religion, medicine for bodies, grammar for tongues”.²
- ❖ “Sciences are four: Jurisprudence for religion, medicine for bodies, grammar for tongues and stars to know times”.³

¹ Tib al-Imam al-Sadiq by al-Khalili P.18.

² Tuhaf al-Uqool P.208.

³ Bihar al-Anwar V.1 P.218.

- ❖ “Science has two types: A gifted and a gained, and the gained science isn’t useful without having the gifted one”.¹

In these sayings, the Commander of the Faithful confirmed that the gifted science is what’s well-established in the spirit, and which traces appear in the deeds of the individual. And we can understand from that that scientific knowledge can’t be a superficial knowledge that can’t be established in the mind and be used to understand other information that might be more complicated.

The Imam also said: “Each container is decreased through what’s put in it except the container of knowledge, it’s increased”.²

In the previous saying, the container of knowledge means the intellect because it’s increased by increasing knowledge, and that includes an explicit invite to continue the scientific research by humans and learning without stopping because, in the brain, there is a space of understanding the maximum of what an individual might learn during his life, since science is accumulating, as known, and the human being has to keep researching in the fields of science and knowledge.

The Imam also said: “Two greedy ones that never get fulfilled: A seeker of knowledge and a seeker of the earthly world”.³ In the previous saying, there is an obvious sign that one can never reach the end of science because the more science a seeker of science gets, the more he finds himself needing more scientific knowledge since sciences are broad and they keep evolving and increasing.

Imam Ali also said:

- ❖ “He who revived a knowledge never die and he who owns an understanding won’t become poor”.⁴ The Imam mentioned that knowledge keeps the mentioning

¹ Nahj al-Balaghah P.544.

² Nahj al-Balaghah P.521.

³ Nahj al-Balaghah P.562.

⁴ Sharh Nahj al-Balaghah ibn Abu al-Hadid V.20 P.376.

of its dweller alive even after his death and a human being is rich when he has knowledge.

- ❖ “Kings are the rulers of people, and scholars are the rulers of kings”¹.
- ❖ “Learn knowledge young, so that you can become masters of it when you grow old”.²
- ❖ “The ignorant is young even if he was old, and the scholar (knowledgeable) is old even if he was young”.³
- ❖ “Getting along with knowledge is part of the honorable determination”.⁴
- ❖ “What a good couple satisfaction is, knowledge is an honorable inheritance, manners are renewable clothing and thought is a clear mirror”.⁵
- ❖ “Who is dressed with knowledge, his flaws are hidden from people”.⁶
- ❖ “The lowest knowledge is what is limited to the tongue, and the highest knowledge is what is manifested in organs and limbs”.⁷

The lowest knowledge is what stops on the tongue and doesn't have apparent effects on morals, behavior and deeds, and the highest knowledge is what appears in the behavior of the human being after being firmly established in its organs like the brain.

Some of what Imam Ali said to Kumail ibn Ziad al-Nakh'i was: “O Kumail ibn Ziyad, these hearts are containers and the best of them are the most extensive. So, remember what I am saying to you: People are of three kinds: A divine scholar, a learner for the sake of deliverance and ignorant uncivilized who follow every speaker and bend with every wind, they haven't sought

¹ Sharh Nahj al-Balaghah V.20 P.399.

² Sharh Nahj al-Balaghah V.20 P.375.

³ Sharh Nahj al-Balaghah V.20 P.414.

⁴ Sharh Nahj al-Balaghah V.20 P.410.

⁵ Sharh Nahj al-Balaghah by Muhammad Abduh P.503.

⁶ Tuhaf al-Uqool P.215.

⁷ Sharh Nahj al-Balaghah by Muhammad Abduh P.519.

enlightenment through the light of knowledge and haven't resorted to a solid resort. O Kumail, knowledge is better than money because knowledge guards you and you guard money, and money is decreased by spending, and knowledge is increased when shared".

Until the Imam said: "O Kumail ibn Ziyad, the hoarders of wealth died in life, and scholars will remain forever, their bodies will be buried but their teachings will be found in the hearts".¹ The Imam has so many other brilliant sayings.

That was the invitation of Ali for people to seek knowledge and learn sciences since youth and giving it the highest value so that people use them to spread prosperity to all humanity, and the Imam differentiated between the category of scholars, learners and uncultured ones, and he described the last one accurately as being uncivilized ignorant because they haven't depended on a solid foundation.

That came as an addition to what was mentioned in the holy Quran of established verses that manifested the value of knowledge and scholars in life, it was mentioned in the fundamental verses of the Quran:

- ❖ "Those of His servants only who are possessed of knowledge fear Allah".²
- ❖ "Are those who know and those who do not know alike?"³
- ❖ "Allah will exalt those of you who believe, and those who are given knowledge, in high degrees; and Allah is Aware of what you do."⁴
- ❖ "and say: O my Lord! increase me in knowledge."⁵
- ❖ And the sayings of Imam Ali came as an addition to the sayings of the noble prophet Muhammad may

¹ Nahj al-Balaghah P.513.

² Sura Fatir, verse: 28.

³ Sura al-Zumar, verse: 11.

⁴ Sura al-Mujadila, verse: 11.

⁵ Sura Taha, verse: 114.

Allah pray upon him and his household which were related to this topic, and we will mention the following of his sayings:

- ❖ “Seeking knowledge is an obligation of every female and male Muslim”.¹
- ❖ “When the son of Adam dies, his deeds will stop except of three things: A running charity, a useful knowledge or a good son who prays for him”.²

The sciences of Nahj al-Balaghah

Imam Ali was known for his abundant knowledges whether they are religious or related to the earthly life, and Nahj al-Balaghah included so many bright signs, brilliant sparkles and shining eloquent sayings which formed the concept of knowledge in the most accurate images, most beautiful proverbs and pearls of wisdom which have a very effective impact in the lives of people generally.

Some of the sciences which the Imam talked about in his eloquent course are illustrated in the following diagram:

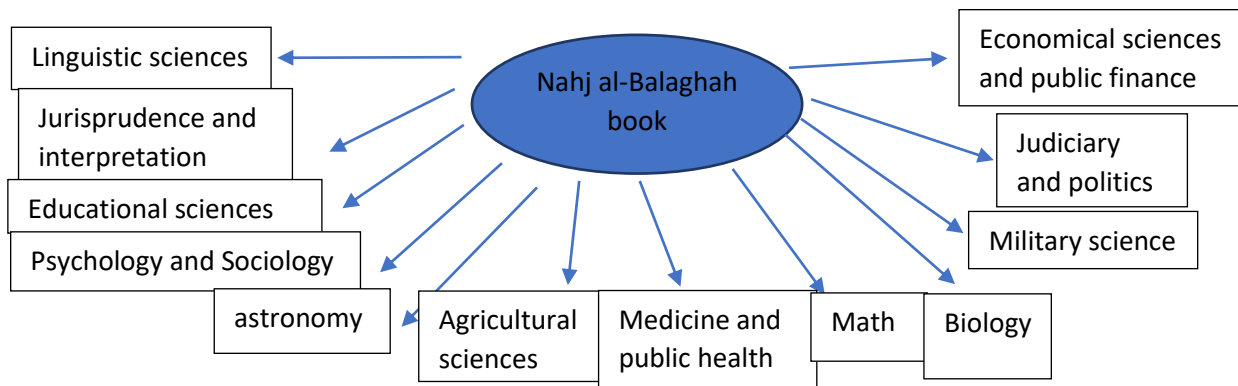


Diagram 1. The relation between Nahj al-Balaghah book and various sciences of life

¹ Mustadrak al-Wasa'el, V.17 P.249.

² Bihar al-Anwar V.2 P.22.

1. **Linguist sciences:** The Imam peace be upon him was well-acquainted with linguistic sciences like grammar and eloquence, and he was famous for his wisdom and fluency, and so many poems and proverbs were ascribed to him, and we see the best proof of that in his sermons, commands and preachments which are mentioned in Nahj al-Balaghah book which contains various arts of language which represent the summit of fluency and eloquence and the best of Stylistics and Rhetoric, and all that came in the maximum briefness and inimitability. And the Imam was the first to add points to the Arabic letters of the holy Quran¹ and he was the one who established the origins of the Islamic calligraphy.²
2. **Islamic Jurisprudence and Quranic interpretation:** Imam Ali is considered the best scholar because he was the most knowledgeable jurist, and from his straight course so many issues related to jurisprudence and interpretation were taken, even people said that he was the first to write a book of jurisprudence.
3. **Management sciences:** In the eloquent course, there are integrated signs of the policies related to manage the state and its facilities and the successful ways to organize the people's affairs.
4. **Educational sciences:** In Nahj al-Balaghah, there are so many recommendations and teachings which the Imam issued about the methods of educating children correctly and about the sound relation between the teacher and the learner.
5. **Psychology and sociology:** The Imam peace be upon him treated so many psychological and social phenomena of humans, and he accurately and comprehensively described them through mentioning the relation between the individual and his lord, and his ego and others in life.

¹ Subh al-A'sha V.3 P.151.

² Al-Sabr al-Adabi V.2 P.637.

6. **Economical sciences:** In Nahj al-Balaghah, there is obvious mentioning of the economical sciences which the Imam derived from the holy Quran and the noble prophetic tradition which the Imam saw necessary to manage the affairs of the state and public life like choosing the economic policies, studying the causes of poverty and its solutions and working on achieving an inclusive development.
7. **Business sciences:** The Imam invited people to practice legitimate business and free trading in so many of his sayings which were narrated in Nahj al-Balaghah book.
8. **Human rights and individual freedoms:** Nahj al-Balaghah includes the invitation to respect individual freedoms and human rights, and maybe the most obvious saying about this of the Imam is: “People are free in their money and selves”.
9. **Military sciences:** Nahj al-Balaghah contains so many obvious signs of the military sciences of Imam Ali through the famous wars which he fought to defend Islam and according to the teachings of the noble prophet Muhammad.
10. **Judiciary:** In Nahj al-Balaghah, the Imam expressed the judicial policy of Islam and how to issue the sentences which manage the affairs of Muslims according to what Allah and the messenger want that achieve justice and safety of the society, and the prophet Muhammad said about him: “The best judge among you is Ali”.¹
11. **Agricultural sciences:** Nahj al-Balaghah includes so many instructions and teachings related to agriculture.
12. **Mathematics:** Imam Ali was known for being good in math and his speed in solving mathematical problems, and the stories and incidents which are narrated of him are many and known for all people.

¹ A’yan al-Shia V.1 P. 342.

13. **Biology:** Nahj al-Balaghah includes a view of so many things related to life of living beings like humans, animals and plants and various sciences related to these beings.
14. **The Sciences of the future:** The Imam viewed in many sayings so many incidents which were mentioned in Nahj al-Balaghah that might happen in the future and which can form specialized sciences separated from other sciences.
15. **Medicine and public health:** Nahj al-Balaghah is full of the sayings of the Imam and his advices related to medicine and public health, and this topic formed fundamental points for the coming chapters of this book.

The Imam also talked about many other sciences; therefore, we can say that Nahj al-Balaghah (The Course of Eloquence) is the course of life since it doesn't only include rhetorical stuff, but rather it's related to all affairs of life.

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**Medical Sciences in
Nahj al-Balaghah**

Medical Sciences in Nahj al-Balaghah

The history of medicine

Medicine went through various phases, the first of which was primitive and based on ignorance, conjuration, magic and superstition, and it stayed like that for a long time, until the famous Greek physician Hippocrates came and he separated medicine from gods by depending on analogy and experimenting, and because of its importance in human life, the profession of medicine became a noble human profession that includes various sciences, and it started having some sort of sanctity and respect as a high profession which has a special rank and respect by God and people because it aims at saving people from the pain of sickness and providing treatment for people.

Some might think that what was mentioned of medical things anciently are just simple cognitive things but if we consider the Bedouin life which dominated Arabia at that time, the lack of human gatherings, the lack of technological tools, the modern life in its common concept today and other things, we will find that what was said at that time about medicine and general sciences is not insignificant, but rather they were like standing lanterns in the life of humanity.

On the other hand, diseases were simple and maybe they weren't discovered yet and the environmental pollutions were few and that intuitively will cause to form strong antibodies that will protect from most diseases at that time.

Anciently, Medicine was connected to religion to a great extent, so divine religions showed interest in it through what was mentioned in the divine books about this kind of scientific knowledge, and generally, ancient medicine depended on experimenting. However, modern medicine depends on methodical study and scientific research in addition to experimenting, and so many prophets and messengers practiced medicine and showed interest in it like Idris, Job, Solomon and Jesus peace be upon them.

Western writers have sayings about Islam and medicine, about the Quran and medicine and about the holy Hadith and medicine, and nearly there is one research about Islam and medicine written in every book in the West about the history of medicine until it became an academic research.¹

Islam and medicine

Islam was firmly connected to the public health of the individual, for example, Dr. San Giorgio Darilano who is among the top specialists in the history of medicine said in his book: “The history of medicine” which was printed in Paris in 1936: “Obligations and duties and other recommended practices connected to health in Islam aim at two achieving two goals and purposes at the same time, the first is religious and the second is hygienic”.

Renan, the researcher, also shared this opinion with him, as he said: “Islam added a religious character to the hygienic duties”.²

As for Rene Sand, he said in his book “For a Social Medicine”: “The religious teachings of Islam improve health since it invites people to contentment (avoid overeating and drinking), cleanness and ablution with clean water five time a day before each prayer, and prayer is a group of physical movements, and Islam orders to quarantine ill ones who have contagious diseases, and Islamic sciences have dedicated a big portion of its researches to preserve health”.³

The Prophetic Medicine

The noble prophet Muhammad may Allah pray upon him and his household talked a lot about medicine and public health and about diseases and the prevention of contagion, until the narrators of his tradition collected 300 of his holy sayings which became known later as “The Prophetic Medicine”.

¹ Tarikh al-Tib wa Adabuh wa A’lamuh by al-Shatti P.155.

² Tarikh al-Tib wa Adabuh wa A’lamuh by al-Shiti P.156-157.

³ The previous source P.157.

The prophet may Allah pray upon him and his household used to treat himself by himself and he ordered sick people of his household and companions to do that, and most of his treatments were simple, not composed, and that rule of treatment is still followed until today and it means to avoid the complex medicine if the treatment was possible using the simple medicine.

It's worth mentioning what the British orientalist doctor Edward Brown said, he said that prophet Muhammad announced that each disease that infects people has a suitable medicine and he defined the main three ways of treatment which are to eat honey, cupping and cauterization but he ordered his followers to avoid cauterization and to reduce using it, and among other substances which were mentioned in the sayings of the prophet, according to Brown, are the camel milk, Fennel flower seeds, cactus and melon.

As for the diseases which were mentioned in the sayings of the prophet Muhammad, they are headache, migraine, ophthalmia, leprosy, pandemics, fever (he called it the exhalation of Hell), and Muhammad used to advise his followers not to visit a country in which there is a contagion.¹

Doctor Darilano said about the prophet: "It's correct to say that Muhammad wasn't the first physician in Islam only, but rather, he was the first who wrote a perfect book about medicine which he called the Prophetic Medicine".²

He also considered the prophet to be among the most noble doctors and said about him: "During his battles, he used to take care of the wound, and he used to bring nurses".³

Before that, many doctors professed the authenticity of his medicine like al-Shamardl who was in the delegation of Najran bani al-Harith bin al-Ka'b who said when he came to the prophet: O Allah's messenger, I was the priest (physician) of my people in the Jahiliya (before Islam), so what's permissible for me to do? The prophet said: "The Bloodletting, the stabbing probe, if you

¹ Tarikh al-Tib wa Adabuh wa A'lamuh by al-Shiti P.164.

² The previous source P.156-157.

³ The previous source P.163.

were forced to, and you have to use the senna and don't treat anyone before knowing their disease", the Shamardl said: I swear by him who sent you with the truth that you are more knowledgeable of medicine than me.¹

In addition to so many other testimonies narrated from other scholars and researches from all nations and religions and during all times that confirm what the noble prophet recommended in his medical teachings which aim at preserving the human health and wellbeing.

As for his sayings they generally include the following:

1. Medical recommendations to prevent diseases.
2. Medical prescriptions to treat diseases.
3. The invitation of sick people to consult doctors.
4. The manners of visiting ill people and reminding of the principles of the manners of visiting them.
5. Prohibiting the practice of magic and reminding of its harms.
6. Choosing healthy diet as an alternative to drugs to protect the body from diseases.
7. Preferring to use simple drugs over complex ones.
8. Focusing on the importance of cleanness to strengthening health and avoid sicknesses.
9. Using spiritual medicine as one of the ways to treat diseases, and it's worth mentioning that spiritual medicine is considered at the present time as one of the principles of the alternative medicine.
10. Emphasizing diet and avoiding dyspepsia.
11. The invitation to use cupping.

And the conclusion is that the holy Quran and the prophetic noble sayings included so many texts related to medical

¹ The previous source P.163-164.

conceptions and public health in a way that preserves the human health and wellbeing.

Medicine and Nahj al-Balaghah book

Nahj al-Balaghah established the first nucleus to form medical and pharmaceutical sciences for the people who came after Imam Ali peace be upon him since his sons and grandsons the Imams peace be upon them took so much from him until they became masters of the medical fields in addition of being the masters of jurisprudence and interpretation (of Quran). So, it's correct to say that Nahj al-Balaghah put, in addition to the prophetic medicine, the corner stone of creating the medicine of Ahlulbayt.

In regard to the medicine of Ahlulbayt (the household of the prophet), many books and studies were issued which had the following name or title: "The medicine of the Imams", and others were issued about the medicine of Imam al-Redha peace be upon him or the medicine of Imam al-Sadiq peace be upon him.

Some of the most important factors that lead to the appearance of medical and health concepts in Nahj al-Balaghah were the following:

1. The erudition of Imam Ali and his extensive expertise in all fields of life including the political, social, administrative, linguistic, juristic etc.
2. His remarkable ability to study medical phenomena and analyzing them.
3. His remarkable ability of induction and expecting what can happen next, depending in that on the notice power and the accuracy of the scientific thinking.
4. The dependance of Imam Ali on what's mentioned in the holy Quran of distinct verses which emphasize the role of science and medicine in the human life, and maybe his famous saying: "In the Quran, there is a verse that includes

the whole medicine¹: Eat and drink and don't waste.²" is the most obvious proof of that.

5. The strong influence of the noble prophet Muhammad on him whose medical teachings were obvious for Imam Ali since the Imam took his knowledge and eloquence from the knowledge and eloquence of the prophet depending on what was known later as "The prophetic medicine" and the Imam emphasized that by saying: "Allah's messenger may Allah pray upon him and his household taught me a thousand doors of knowledge and from each door a thousand doors were opened".³

What was narrated in Nahj al-Balaghah book of wise proverbs and eloquent teachings and sayings are just an expression of the jurisprudence of medicine which is derived from the holy Quran and the noble prophetic sayings, and we will be using the Quran and the noble prophetic sayings as our main method to discuss Nahj al-Balaghah and the sayings of Imam Ali peace be upon him to emphasize his following of that straight course and the noble prophetic tradition.

It's worth mentioning that the medical information which was available at the time of the Imam was surpassing its time because people at that time were in a deep sleep of ignorance and they didn't know except a little about medical and public health issues, and by that, the great value of the health and medical concepts of the Imam become manifested for us. Then modern medicine brought various studies and strong scientific researches to prove the authenticity of what the Imam said in his proverbs and general medical and health teachings and wise proverbs.

¹ Bihar al-Anwar V.62 P.267.

² Sura al-A'raf Verse: 30.

³ Kashf al-Ghumma V.1 P.130.

Medical sciences in Nahj al-Balaghah

Nahj al-Balaghah included so many medical sciences and we will mention the following:

1. The medical ethics (How doctors should be).
2. The relationship between the doctor and the patient.
3. The public health.
4. Anatomy.
5. Embryology.
6. Physiology, it's the study of the functions of all organs of the body.
7. Pharmacology.
8. Immunology and sickness.
9. Internal medicine.
10. Senses.
11. Maternity and pediatric medicine.
12. Reproduction and Infertility.
13. Geriatrics.
14. Food and nutrition.
15. Psychiatric medicine.
16. Forensic Medicine.

The characteristics of medical topics in Nahj al-Balaghah

The medical and public health topics that were narrated in Nahj al-Balaghah had the following characteristics:

1. They were issued using a simple and smooth language that was understood for the public at that time and it was suitable for their cognitive abilities.
2. They were presented in the form of teachings and short proverbs that have obvious significations and they express the intended meaning.
3. They came from the daily life of human beings at that time.
4. They included the health of humans from physical, psychological and social sides.
5. They discussed the environmental aspects related to humans and their societies.

6. They were known for having preventive and curative significations.
7. They were derived from the concepts of the holy Quran of the medical and health topics.
8. They came in harmony with the teachings of the noble prophet Muhammad and his general education of the Imam and the medical education in particular.

The alternative medicine (An important note)

We are here talking about old and modern medicine, and we say that modern medicine depended so much on the old medicine which was known as the public medicine and it's a group of knowledges and information that represent a communal and individual procedures that were used to treat diseases, and they are different from scientific medicine (traditional medicine or modern medicine), and modern medicine depended on it in using herbs and medical plants to treat various diseases and also in using various diets to protect the body from those diseases.

Modern medicine has evolved until it reached what we know today of advancement and especially in the fields of Pharmaceutical industry and inventing the devices and tools and special techniques that help in defining and treating various diseases, and despite that we say that the whole world recognizes the alternative medicine as a successful means of preventing and treating diseases.

We mean by the Alternative medicine the common traditional drugs that are used to treat diseases like hypnosis, acupuncture, music, cupping and taking herbs, but rather heading towards the graves of saints and good people is considered one of the components of the Alternative medicine.

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**The Relationship between the
Doctor and the Patient**

The Teachings of the Imam for physicians

Nahj al-Balaghah manifested the nature of the relationship between the physician and the patient through the eloquent teachings of the Imam for each one of them.

About the physician, Imam Ali said: “Who wants to become a physician should fear God, give the best advice and do his best efforts”.¹

That saying includes important teachings which are:

1. The physician has to be honest in his profession and should adhere to its ethics and he has to be professionally responsible.
2. He has to be a keeper of the secrets of his patients.
3. He has to do his best to scientifically follow his specialty to keep up with new scientific advancement in his domain.
4. He has to treat patients humanly by creating bridges of trust in order to achieve the goal of their meeting which is to provide the suitable treatment for the patient.
5. He has to be good in asking the patient about the symptoms of his illness and what he is feeling in order to have a good idea of the sickness.
6. He mustn't harm the patient in any way.
7. The physician should talk with the patient in a way that reflects his interest of his suffering and in a way that's far from arrogance especially with the patients who don't have high education. And it's worth mentioning that the patient has the right on the physician to explain the sickness for him in a simple, understood and diplomatic way and to tell him how things will be after the treatment, especially if he has an incurable disease.

¹ Bihar al-Anwar V.62 P.74.

8. He should be chaste when dealing with patients, and he shouldn't treat them with prohibited substance.
9. He shouldn't be frowning at the patient because that might make him think that he is hopeless, and it's said that the smile of a doctor to his patient and his good words are half the treatment.
10. He should have an accurate knowledge of the date of the disease which the patient has so that he can make the right decision in diagnosing the disease.
11. He has to cooperate with his colleagues in the same team if he has to because it might require the efforts of more than one specialty to provide the medicinal or surgical treatment.
12. He has to check the diagnosis of the disease accurately using laboratories or supporting medical devices which give a comprehensive image of the nature of the disease.

One of his important teachings in this field is his saying is: "Who practices medicine on someone has to get the release of his caretaker or else he is a guarantee for him".¹

The deed of release today is a written approval through which the patient, his caretaker or their representative allow the doctor to do whatever needed medical treatment whether through surgery or medicine, and by doing that, the doctor abdicates his responsibility of the results of his medical or surgical actions which might lead sometimes to harm the patient or to his death.

Furthermore, the noble prophet Muhammad talked about the people who claim to be doctors although they aren't by saying:

¹ Al-Kafi V.7 P.364.

“He who practices medicine and wasn’t known of practicing it before is the guarantee for the patient”.¹

That teaches us that who claims to know medicine and he wasn’t known of it (He wasn’t known for being a doctor), is the guarantee of what the treatment he prescribed for the patient might cause or of what the surgery he made might cause of harm.

The Characteristics of the skillful physician

A skillful physician should have a few characteristics all of which were derived from the Arabic Islamic medical heritage and we will mention the following:²

1. Looking for the kind of disease.
2. Looking for the causes of the disease.
3. Noticing the strength of the patient and his physical ability to fight the disease.
4. Noticing the age of the patient.
5. Noticing the environment of the patient and his habits.
6. Considering the profession of the patient and the nature of his job.
7. Studying the history of the family because diseases can be transmitted by infection or heredity.
8. He should keep up with new advancement of his specialty in the fields of diagnosis and treatment.
9. He should pay attention to the time of giving the treatment or the right time to perform an operation (if it’s a surgery).
10. He should know the strength and effectiveness of the medicine.

¹ Al-Tib al-Nabawi P.106-107.

² Freely adapted from al-Tib al-Nabawi book by Ibn Qayyim al-Jawziyya P.111-113.

11. He should be gentle with the patient and easy with him.
12. He should use the simplest treatment first, so he shouldn't go the complex medicine except after the failure of the simple medicine.
13. Generally, the physician should master medicalization as an application of the proverb: "May Allah be merciful with who does a deed perfectly".

The Hippocratic Oath

There is a medical oath which all physicians recite after graduation from the medical faculties so it guides their work in their professional life, and it represents a manifestation of the ethics of the medical profession, and maybe the Hippocratic oath is the most famous form of it which is: "I swear by God, the lord of life and death and the creator of healing to hold my teacher in this art equal to my own parents; to make him partner in my livelihood; I will use those dietary regimens which will benefit my patients according to my greatest ability and judgment, and I will not administer a poison to anybody when asked to do so, nor will I suggest such a course. Similarly, I will not give to a woman a pessary to cause abortion. But I will keep pure and holy both my life and my art, and whatsoever I shall see or hear in the course of my profession, as well as outside my profession in my intercourse with men, if it be what should not be published abroad, I will never divulge, holding such things to be holy secrets."¹

As for the medical oath which we have in our medical faculties in Iraq, it is: "I swear by the great God and by my sanctities to be loyal to who taught me this profession and to be humane with the patients and to put their interest first and not to spread the secrets of patients and not to prescribe a medicine to

¹ Al-Arab wa al-Tib by al-Shatti P.17-18.

harm them and to have a good behavior with my coworkers and to be loyal to my nation and country”.

The teachings of the Imam for the patient

Previously, we discussed the relationship between the patient and the physician and how the physician should be, but as for the teachings and proverbs of the Imam peace be upon him for the patient about preserving the public health, there are so many and maybe they are the main cause of writing this book and we will read them in the coming chapters of it.

Some of the sayings of Imam Ali about this:

1- “There is no cure for who hides his sickness from his doctor”.¹

2- “He who keeps his disease a secret, his doctor won’t be able to cure it”.²

3- “Who keeps his disease a secret from his doctor has betrayed his body”.³

Those were important teachings for the patient through which the Commander of the Faithful referred to the importance of telling the hidden symptoms of the sickness to the doctor so that he can diagnose his medical condition closely and form a comprehensive image, in order to treat him clearly and basing on that knowledge, or else the doctor might be unable to give the useful treatment for his patient.

The patient may not tell the doctor about the nature of the sickness and its hidden symptoms because of the following reasons:

¹ Ghurar al-Hikam wa Dur al-Kalim P.485.

² Hidayat al-Ilm fi Tanzim Ghurar al-Hikam P.564.

³ Same source.

1. The patient might be shy so he hides his secrets from the doctor.
2. The desire of the patient to keep the secrecy of the sickness he has, especially the sexual disease that the patient might have, because of wrong (prohibited) sexual practices, so he insists on keeping them a secret.
3. Some male patients might not admit some symptoms which are related to his manhood (masculinity) like male infertility.
4. Not giving enough time for the patient to talk about what he is suffering from freely, and the doctor who might be hurried when dealing with patients might not get enough information about their sicknesses.
5. The lack of trust between the doctor and the patient might prevent the patient from talking about his symptoms.
6. Some patients might not talk about the hidden symptoms of their disease because they want to test the ability of the doctor to discover or diagnose their disease.

From another side, the patient might be a young child or a mentally ill person so that they can't express the symptoms of their diseases, so their caretakers do that instead, and those people might not be able to describe the condition which each one of them might have (the young child or the mentally ill person) accurately which leads to know their Pathological condition correctly, and when the proper circumstances become available for the patient, he will talk about his sickness to the doctor doubtlessly, so the two parties can work together to build the mutual trust which helps a lot in curing the disease.

The manners of visiting the patient

In addition to the teachings of the Imam peace be upon him to the patient, there are invitations to visit the patients in order to ease

their pain and taking care of them, and doctors recommend taking care of their patients (as mentioned before), and Imam Ali provided the corner stone of the manners of visiting the patients by saying: “Among the highest reward of the visitors of patients is he who, when visiting his brother, shortens sitting unless the patient likes and asks for that”.¹

It is worth mentioning that the Imam peace be upon him said: “The patient should be (quickly) visited, and the healthy person should be visited (normally)”.²

Prophet Muhammad may Allah pray upon him and his household mentioned that by saying: “Visiting the patient is an Islamic tradition”³, and that emphasizes the importance of visiting the patient and considering it one of the human obligations which each person should practice in their community in order to support the pillars of the human harmony, and the noble prophet emphasized that by saying: “The greatest reward of the visit of patients is the lightest”⁴ and it means that the patient needs a complete rest when healing from a certain disease, in addition to have enough time of sleep and taking the medicine and other things that offers a complete care for him, and among these things is to sit with him for short time and visit him just to check his condition.

So, these were the manners of visiting the patient which prophet Muhammad and Imam Ali taught us.

¹ Tib al-Aymma by Abdullah Shubar P.113.

² Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 Hadith number.405.

³ Al-Fardous V.3 P.81.

⁴ Kanz al-Ummal V.9 P.97.

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About the Public health

Public health and Sickness

About the conditions of health and sickness of the body, Imam Ali peace be upon him said:

- ❖ “Bodies have six conditions: Health, sickness, sleep, awakening, death and life, and so do souls as their health is certainty, their sickness is hesitation, their sleep is inattentiveness, their awakening is heading (towards God), their death is ignorance and their life is knowledge”.¹
- ❖ “Health is the best of bounties”.²
- ❖ “Surely, poverty is from affliction and what is worse than poverty is the sickness of the body and what is worse than the sickness of the body the sickness of the heart, and surely richness is from the bounties and what is better than it is the health of the body and what is better than the health of the body the God fearing of the heart”.³
- ❖ “There is no better happiness in life than health”.⁴
- ❖ “Sickness is the prison of the body”.⁵

Health and sickness are two medical concepts each of which refers to the state of the body and that’s through observing the compositional and functional characteristics of its main organs.

Health means the state of being free from illness and having the basic elements in the natural levels that are suitable for it and it refers to the wellness of the human being and it’s really like what

¹ Tib al-Imam al-Sadiq by al-Khalili P.5.

² Makarim al-Akhlaq P.358.

³ Nahj al-Balaghah P.553.

⁴ Nahj al-Balaghah P.492.

⁵ Ghurar al-Hikam wa Durar al-Kalim P.483.

the Imam said: “There is no better happiness in life than health” and “Health is the best of bounties”.

World Health Organization defined health as: “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

As for disease or illness, it is any deviation or disorder of the natural composition or function of a part, organ or system of the body which has symptoms and special marks and is related to causes that might be known or unknown.¹

It also can be defined as the deviation of the internal components of the body from their normal levels, or a disorder of the internal environment of the body “Homeostasis”.

As for Ailment, it’s the disease which is the result of minor or moderate functional disorder of body organs.

Treatment is to restabilize the internal environment of the body to its normal condition by correcting the increase or decrease of the internal components of the body, and that might happen internally (automatically) or externally using the required drugs and the suitable nutrition.

The Commander of the faithful said about illness: “Illness is the prison of the body”.²

Generally, sickness is either physiological, which means the infection of a certain organ of the body, or psychological which might be resulted from a physiological disease sometimes. It’s known that each living being whether it’s elevated or minor, plant, animal or human, each of them has their own disease or sickness, and there might be common diseases between various living

¹ Dorland medical dictionary P.511.

² Ghurar al-Hikam wa Durar al-Kalim P.483.

creatures which live in the same environment, and each of these illnesses has its own medicine which can be used to get rid of it, and Imam Ali peace be upon him illustrated that by saying: “Each living being has a disease, and each disease has a medicine”¹, and we will discuss the topic of medication in some of the coming chapters in this book.

- **The effective factors in the public health**

Each individual faces so many diseases during his life whether he knows that or not, and there are various causes of diseases and they can be divided into environmental causes like polluters and germs which cause illness, or self-related like cecotrophy which causes a disorder in the biological time which organizes all functions of the body, or it might be mental that’s caused by physiological, social, economical etc. causes.

There are a few factors which effect the public health of an individual like:

1. Sex:

Some Studies confirmed the difference of disease ratios between males and females and that females are usually more affected than males and that might be caused by the physical composition like the form of the genitals and some other functions related to it like pregnancy, breastfeeding and menstruation.

2. Age:

Age greatly affects the public health because the biological performance of each physiological organ decreases with age and thus the efficiency of the organs decreases, and Imam Ali illustrated that by saying:

¹ Tuhaf al-Uqool: P.208.

- “He who has reached 70 complains without having a disease”¹.
- “He who was missed by the arrow of death will be captivated with senescence”².

Senescence is the period which precedes death and it’s the course of life since there is no eternal being and eternity is for Allah only exalted and glorified be He.

3. Nutrition:

Nutrition plays a major role in building the body and performing its various functions, therefore, certain nutrition programs should be followed to regulate food consumption that suits the public health of each individual, and excessiveness or shortage of nutrition might lead to certain illnesses, and Imam Ali focused a lot about this and he emphasized in many of his famous saying to avoid excessiveness when it comes to food consumption like:

- “Don’t seek life to eat, but rather seek food to live”³.
- “He who was moderate in his eating, his health will increase and his mind will be clear”⁴.
- “He whose food consumption was reduced; his pain will be reduced”⁵.
- “He who inserted in himself the love of various types of food will reap the fruits of various kinds of illnesses”⁶.
- “Beware of gluttony for he who sticks to it will have increased illnesses and his mind will be corrupted”⁷.
- “How many foods prevented death!”¹.

¹ Sharh Nahj al-Balaghah V.20 P.324.

² Sharh Nahj al-Balaghah V.20 P.380.

³ Sharh Nahj al-Balaghah V.20 P.333.

⁴ Uyoon al-Hikam Wa al-Mawaez. P.155.

⁵ Uyoon al-Hikam Wa al-Mawaez. P.137.

⁶ Uyoon al-Hikam Wa al-Mawaez. P.426.

⁷ Uyoon al-Hikam Wa al-Mawaez. P.96.

- “There can be no intelligence with gluttony”².
- “Too much eating and sleeping ruin the self and cause harm”³.
- “Health can’t be gained without diet”⁴.
- “He who isn’t patient on the stress of diet, his illness will be long”⁵.
- “The stomach is the house of maladies, and diet is the head of medicine, and there is no well-being with gluttony”⁶.
- “Health can’t co-exist with gluttony”⁷.

From all that we understand that who avoids fullness and excessiveness in consuming food, his illnesses will decrease because that fullness cause a big stress for various organs of the body which should perform their functional roles according to normal courses, and how many people overeat and thus they had indigestion and that prevented him from eating for days and caused him various maladies.

Imam Ali peace be upon him didn’t neglect anything related to the health and well-being of the human being but rather he spoke about everything with wisdom and pure eloquence and his sayings contain a manifestation of the strong relation between the public health of the human being and food, and Imam Ali was inspired in his sayings by the holy Quran and we remember his great saying in regard to that: “There is a verse in the Quran that gathers the whole medicine⁸: **(And eat and drink and be not extravagant)**¹”.

¹ Bihar al-Anwar V.73 P.166.

² Uyoon al-Hikam Wa al-Mawaez. P.532.

³ Uyoon al-Hikam Wa al-Mawaez. P.389.

⁴ Mustadrak al-Wasael V.16 P.453.

⁵ Ghurar al-Hikam Wa Durar al-Kalim P.320.

⁶ Ghurar al-Hikam Wa Durar al-Kalim P.483.

⁷ Ghurar al-Hikam Wa Durar al-Kalim P.483.

⁸ Mustadrak al-Wasael V.16 P.453.

That's how Imam Ali peace be upon him emphasized the importance of nutrition and diets in maintaining the well-being of the individual since the body brings the energy it needs to perform its functions from these nutrients whether they were hard or liquid to preserve what is known as the stability of the internal environment of the body "Homeostasis".

The body contains certain amounts of the physiological components in the solid, liquid and gaseous states and any increase or decrease of these amounts can cause disorder to the physiological functions of the body which can cause illness. So, we can simply define the illness as a disorder of the internal environment of the body.

It's known that food contains the following main components:

- Carbohydrates.
- Proteins.
- Fats.
- Amino Acids.
- Minerals and salts.
- Other physiological components like Enzymes, Hormones etc.

4. The environment:

Various bad environmental factors affect the public health of the individual like the pollutions which are caused by factories, exhausts of cars and other transportations, radiations, war relics and the pollution of water and food and the reduce of forests and cultivated areas and the increase of desertification etc. All that

¹ Sura al-A'raf Verse: 31.

obviously affects the health of the human being and it causes various diseases. Therefore, a clean environment must be provided to play a useful role in achieving a better health for the society through preserving the wellbeing of its individuals and their health.

5. Smoking:

It was proved that the substances which are produced from smoking affects badly the health of the human being and their damage are related to cancer, heart and vascular diseases and the respiratory system.

6. Alcohol and drugs:

As for alcoholic drinks, they have negative effects like Cirrhosis of the liver physiologically and mental and social effects because it causes bad behaviors for who consume them.

Drug addiction affects the life of the human being physiologically, mentally and socially too because it leads the individual to crime and drowning in the swamp of sexual diseases.

7. Mental disorders:

Psychological disorders play major roles in the health of the human being because they are like what Imam Ali said: “Depression is half of senescence”¹ and “Drive away from you incoming anxieties through resolute patience and the goodness of certainty”².

Depression and anxiety lead to so many physiological disorders because of the chemicals which the body releases when the individual is depressed.

¹ Sharh Nahj al-Balaghah by Ibn Abu al-Hadeed V.18 P.341.

² Sharh Nahj al-Balaghah by Ibn Abu al-Hadeed V.1 P.324.

8. The tolerance of illness:

There are various degrees of tolerance which each individual faces according to the differences of the nature of his immune system, that's why Imam Ali said: "Keep walking in your sickness as long as you can"¹, it means as long as the individual can withstand the sickness, he can do his work but if the sickness affected him badly then he has to rest. Nevertheless, certain diseases might make the patient gain an acquired immunity which helps him to resist other diseases which might affect him later and thus the disease becomes a medicine like what the Commander of the faithful said in his eloquent wise saying: "Many a time a disease becomes a medicine"².

On the other hand, if the individual has so many diseases might make the healing hard mostly and Imam Ali illustrated that by his famous saying: "One whose ailments are many, his cure will not be known"³.

9. Genetic descending:

Genetics plays a major role in transmitting diseases from parents to children and marriage between relatives causes many of the hereditary diseases that are present in the family, in a more obvious way than it does when marrying non-relatives.

10. Poverty and scientific backwardness:

Many diseases dominate poor and scientifically backward societies due to the absence or lack of health awareness on one hand, and the unavailability of the requirements for health advancement on

¹ Wasel Al-Shia V.2 P.408

² Ghurar al-Hikam Wa Durar al-Kalim P.484.

³ Ghurar al-Hikam Wa Durar al-Kalim P.484.

the other hand, such as potable water, hospitals, medicines and devices that help diagnose and treat diseases.

11. Work:

The nature of the work that a person performs plays an important role in his health, so necessary health measures should be taken to preserve his life from the diseases that may affect him as a result of his daily work, such as unnatural sitting or standing or when using certain devices or supplies that protect against the damage that's resulting from performing the work. Some examples of that include the exposure to heat stroke as a result of being in the work site for a long time, or the exposure to toxic or harmful substances, or other things.

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The physiology of the digestive system

The physiology

Imam Ali has a great role in the field of study in Physiology which is known as the scientific study of functions and mechanisms in a living system, through probing the depths of this science, directly or indirectly, and the data of modern medicine confirmed what the Imam said in his judgment, exhortations, and commandments in this field.

And our speech here will be within certain axes, each of which is devoted to reviewing one of the body systems, starting with the digestive system, then the circulatory system, then the nervous system, respectively, as well as talking about some other body systems.

- **The digestive system**

The digestive system is an important body system for each person because it digests the food and converts it into smaller units of materials that are necessary to sustain his life, build his organs and carry out its various functions. It also provides the body with the necessary energy it needs from the food that passes through it, in order to sustain its various vital activities.

On the other hand, the digestive system is related quantitatively and qualitatively to the food supplied to it. If the amount of food increases (satiety) or (nutritional deficiency) is decreased than its normal amounts, it will undoubtedly lead to confusion in the work of the digestive system, which will negatively affect other body functions, thus affecting the public health of the individual. The quality of food also plays important roles in the life of the human being because of its vital link in building the body and providing the necessary energy for it.

The digestive system, as it is known, consists of the following parts:

- 1- Mouth and salivary glands.
- 2- The pharynx.
- 3- The esophagus.
- 4- The stomach.
- 5- The intestine.
- 6- The Rectum.
- 7- The glands that are attached to the digestive system, such as the liver and pancreas.

- **The mouth**

The mouth is the main gateway of the digestive system, in addition to being the first station in which food is digested mechanically by teeth which cut, crush and grind food, and chemically by the salivary glands.

It also contains the tongue, which helps to move the bite in it and to taste the food and drink that a person eats.

The Imam was interested in oral and dental health in many areas, which we will refer to later.

- **Stomach**

It is considered the most important organ of the digestive system, because it decomposes the nutrients that comes to it through special digestive enzymes, each of which cares about a special type of food.

Parietal cells of the stomach secrete hydrochloric acid, which prepares an acidic medium in the stomach that is necessary for the pepsin enzyme to work, in addition to its disinfectant role as it kills a lot of bacteria in the food.

As for the infectious enzymes, they are:

1- Pepsin

It is a protein-digesting enzyme secreted from the chief cells of the gastric glands, where it converts large protein molecules into less complex compounds known as polypeptides. Pepsin is one of the strongest protein-digesting enzymes.

2- Rennin

It converts the milk protein known as casein into paracasein, then into calcium paracaseinate.

3- Gastric lipase

It digests fats and turns them into fatty acids, glycerin and chlorides.

It seems that the importance of the stomach lies in its connection with what is known as the Vagus nerve which is related to a number of other body organs such as the heart and the bladder on one hand, and to various biological phenomena such as salivation and bowel movement on the other hand. Therefore, what the stomach is exposed to by stimuli may affect the function of the Vagus nerve which in turn affects other parts of the body.

From that, the stomach was considered a home for diseases according to what was mentioned in the sayings of Imam Ali about this topic which will be mentioned shortly, so preserving health requires diet and avoiding gluttony so that the stomach performs its required functional roles which may positively affect the functioning of other body organs.

Imam Ali's interest in the digestive system in general and the stomach in particular was evident through his wisdom and eloquent exhortations to play their role to fully demonstrate their

importance. Among these exhortations and commandments, we mention the following:

- “There is a verse in the Qur’an that gathered all medicine¹: Eat and drink and not overeat².”
- “The stomach is the home of medicine, and diet is the head of medicine, and there is no health with gluttony”³.
- “He who instills in himself the love for various types of food will reap the fruits of the arts of sickness”⁴.
- Imam Ali said to his son Al-Hassan: “O son, don’t I teach you four words that are will suffice you from using medicine? He said: Yes. Imam Ali said: Do not sit for eating food unless you are hungry, and do not stop eating food except while you desire it, chew good and if you want to go to sleep then try to use the toilet, and if these are used, they will suffice you from using medicine”⁵. The Imam was addressing his son Al-Hassan with that brief and eloquent command to which means that a person should stay away from satiety and should be satisfied with eating food when needed, because excessive eating may lead to disturbing the functions of the digestive system. Food should also be chewed well to be broken down into smaller units (molecules) in order to turn into other compounds that are needed by the body. Teeth and tongue play a major role in this process.
- There is no doubt that the words of Imam Ali in this regard were derived from the glorious Qur’an and from the instructions of the Holy Prophet, and it was mentioned in

¹ Hidaiat al-Ilm Fi Tanzim Ghurar al-Hikam: p. 229.

² Surat Al-A'raf, verse 31.

³ Mustadrak Al-Wasail: V.16 P. 452.

⁴ Oyoon al-Hikam wa al-Mawa’z P.426.

⁵ Al-Khisal, P.229.

Surah Abasa: "So let a person look at his food"¹, and in Surat al-A'raf: "O Sons of Adam! attend to your embellishments at every time of prayer, and eat and drink and be not extravagant; surely He does not love the extravagant"².

From that it is understood that a person should take care of his food from both sides Quantity and quality, according to a balanced system, so that food plays its role in building the body and carrying out the vital functions necessary for its life.

- Prophet Muhammad said: "The stomach is the home of illness, and diet is the head of every medicine, and give everybody what it is used to"³.

The Imam advised people to eat some foods in this area, such as pomegranate, apples, quince, raisins and figs.

- **Pomegranates**

It is a delicious autumn fruit that's picked from perennial trees, and it is one of the fruits of Paradise. The Prophet Muhammad used to call pomegranate "the master of fruits"⁴. It was also mentioned in the holy Quran in Sura al-Rahman: "In both are fruits and palms and pomegranates."⁵ And pomegranate is scientifically called (*Bunica granatum*), and each cup of it (250 ml capacity) gives 103 calories.

- Imam Ali said about pomegranates: "Eat the pomegranate with its Pulp, for it is the for it is good for the abdomen"⁶,

¹ Verse 24.

² Verse 31.

³ Tib al-Nabbi P.2.

⁴ Al-Mahasin V.2 P.359.

⁵ Verse 68.

⁶ Al-Kafi V.6 P.359.

and this saying is derived from the commandment of the Holy Prophet who said: “Eat pomegranate with its peel, for it is good for the abdomen”¹.

- As Imam Ali said: “Feed your boys the pomegranate, for it is faster for their tongues”².

A Pomegranate includes:

About (83%) water, (10%) sugar, (3%) proteins, (3%) fiber and (1%) of citric acid (lemon).

Pomegranate pulp also contains Tannins that helps in tanning the stomach, as these materials reduce the secretion of hydrochloric acid and thus, they reduce the peptic ulcer disease of the stomach and the duodenal ulcers. Also, it was noted that pomegranate pulp and peel contain 28% of Quinine which is an astringent that is useful for treating diarrhea and dysentery.

The benefits of pomegranates:

- 1- Astringent in cases of diarrhea, because it contains tannin acid.
- 2- It's Useful for blood because it contains iron.
- 3- It's useful for getting rid of indigestion.
- 4- It works to tighten and strengthen the gums.
- 5- It purifies the blood from impurities because it's an antioxidant.

Apples

- Imam Ali said: “Eat apples, for they are good for the abdomen”¹.

¹ Bihar al-Anwar V. 63 P.160.

² Bihar al-Anwar V. 63 P.155.

- Prophet Muhammad said: “Eat apples on an empty stomach, for it refreshes the stomach”².

The fruit of the apple tree, known scientifically as *Malus domestica*, is one of the most cultivated fruit trees, as at least 55 million tons of it were cultivated worldwide in 2005 with a value of about ten billion dollars. The apple tree is a small petiole tree compared to other fruit trees.

Ingredients of Apple

According to the USDA, each medium-sized apple with its peel (about 182 grams) contains 95 calories, and the following ingredients:

- 1- A significant percentage of carbohydrates and sugars (about 44%).
- 2- Very small amounts of proteins.
- 3- Amino acids such as arginine and lysine.
- 4- Very small amounts of fat.
- 5- Water represents the rest of it.
- 6- Various amounts of vitamins A, B, C and H.
- 7- Mineral salts such as potassium, calcium and sodium.

The benefits of apples

- 1- Useful for the cases of diarrhea.
- 2- Helps accomplish the digestive process inside the stomach.
- 3- It helps to strengthen the immune system in the body as an antioxidant.
- 4- It works to stimulate the intestine.
- 5- Contributes to the fight against chronic constipation.
- 6- It is useful in treating joint pain.
- 7- It strengthens the brain and heart.

¹ Al-Kafi V.6 P.357.

² Bihar al-Anwar V.66 P.177.

Quince

Imam Ali said:

- “Eating quince strengthens the weak heart, sweetens the stomach, purifies the heart, and encourages the coward”¹.
- “Eating quince increases the strength of a man and removes his weakness”².

Quince is a winter fruit which is close to apples and pears, scientifically known as *Cydonia oblonga*.

Ingredients of Quince

Quince contains the following ingredients:

1. 64% of the water.
2. 7% of sugar.
3. 14% of calcium.
4. 5% sulfur.
5. 3% soda.
6. 2% chlorine.
7. 0.9% phosphorous.
8. 0.9% protein.
9. 0,3% fats.
10. 13.0% potassium.
11. It also contains a number of vitamins, such as vitamins (A and B).

The benefits of Quince

The imam mentioned the importance of quince in treating the stomach and the heart. Medical studies have confirmed that quince has many benefits, including the following:

¹ Al-Kafi: S6, p. 343.

² Tib al-Aymma by Ibn Bastam P.136

- 1- It is used as an astringent against diarrhea, especially chronic diarrhea.
- 2- Prevents vomiting.
- 3- Helps treating the loss of appetite.
- 4- Heals indigestion.
- 5- It is useful to treat the stomach and liver.
- 6- Heals severe cold.
- 7- It is used in the treatment the illnesses of the chest and lungs.

Fig

- Imam Ali said: “Eating figs softens the bowel obstruction”¹.
- He also said: “Eating figs softens the bowel obstruction, and it is beneficial for the winds of colon, so eat so much of it during the day and eat it at night but do not eat so much of it”².

Figs are one of the favored fruits throughout history that have been greatly appreciated since ancient times, and the Romans have entered it into their beliefs and figs was special sanctified. This blessed fruit was also mentioned in the Holy Qur’an, in Surat al-Tin, in Allah's saying: “By the fig and the olive”³. The scientific name of fig is *Ficus Carica*.

Fig contents

Figs contain the following:

- 1- A large proportion of dextrose, up to 50%.
- 2- Iron, copper, calcium and potassium salts.

¹ Tib al-Aymma by Ibn Bastam P.137.

² Same source.

³ The first verse.

3- Vitamins A, B and C.

In 100 grams of fresh figs there are 70 calories, and in dry figs, 100 grams contains 270 calories.

Benefits of figs:

Figs have many benefits, including the following:

They are used as a laxative material for the intestine.

They remove the problems of cold and flu and their effects from the nose and throat.

They are considered an important source for increasing the sexual energy for both sexes.

They calm nerves and removes all types of anxiety, fear and tension.

They strengthen and improve the liver.

They contribute to the removal of enlarged spleen.

They make the body expel excess urine and break up kidney stones.

8- They treat chest diseases, coughing, asthma, bronchospasm and inflammations.

9- They treat tachycardia diseases.

10- They treat joint diseases and pain.



-8-

The circulatory system

The circulatory system

The circulatory system consists of three main components:

- 1- The Heart.
- 2- Blood vessels (arteries and veins).
- 3- Blood.

Besides, there are lymph vessels that transport what is known as lymph through the circulatory system.

We do not want to talk further about the components of the circulatory system because they are found in all medical and biological references that can be checked when needed. We will shed some light on the heart only as it is the main organ in the system.

The heart

Regarding the physiology of the heart, the Imam said: “Too much food kills the heart just as too much water kills the seed”¹. We conclude from the Imam’s saying that each person should avoid craving for food and drinks because this may lead to the formation of harmful chemical compounds inside the body such as cholesterol the excess of which may lead to blockages in the blood vessels and to various diseases in the heart and the circulatory system, in addition to the damage it causes to other bodily organs. Therefore, the Imam said in this regard: “You can only get health through diet”².

¹ Sharh Nahj al-Balaghah ibn Abu al-Hadid V.2 P.325.

² Mustadrak al-Wasael V.16 P.453.

The heart is an important organ of the circulatory system. It weighs about 350 grams in the adult person, and its size is estimated to be the size of a clenched fist.

The heart is composed of two atria and two ventricles, which form four hallways, and there is no connection between the atria or between the two ventricles. Rather, the heart is divided longitudinally into two parts, right and left, each of which consists of a ventricle and an atrium.

It consists of special muscles that distinguish it from other physical muscles (skeletal and smooth), but rather they are known as the cardiac muscles. These muscles are specialized, due to their location, connections and the nature of their structure, in transporting nutrients, gases, fluids, and other things to and from the heart.

The heart performs its role in a similar way to a pump that pushes blood around the body through the blood vessels (arteries, veins, and capillaries), and the blood carries the nutrients and other necessary supplies throughout the body.

The body also generally transfers liquid or gas wastes from around the body through the blood vessels, heart, lungs and kidneys to be excreted out of the body.

The heart is an organ that does not know fatigue, and it performs its work around the clock (day and night) involuntarily through contraction and extension in a controlled way.

The function of the heart is related to the nature of nutrients, in terms of quantity and quality, which enters the body. The heart is affected by nutrients which affect the rest of the functions of the organs.

The Imam advised to consume some foods to strengthen the heart, and we will mention some of them:

- **Pears**

Imam Ali said: “The pear brightens the heart, and soothes the pain of the stomach”¹.

On the authority of Imam al-Baqir, on the authority of his grandfathers peace upon them: The Commander of the Faithful said: “Eat the pears, for it brightens the heart”². Pears are a delicious fruit grown in cold regions. This plant is known scientifically as *Pyrus communis*.

The ingredients of a pear

The digestion of every 100 grams of pears inside the body produces about 63 calories. This quantity of pears also contains the following ingredients:

- 1- 80% of its weight is water.
- 2- 15 grams of carbohydrates.
- 3- Fat about 2 grams.
- 4- A small percentage of fiber about 1.5 grams.
- 5- A very small percentage of proteins.
- 6- vitamins A, B and C.
- 7- A large number of minerals such as phosphorous, sodium, calcium, copper, zinc and sulfur, and a higher percentage of potassium.

Benefits of pears

Pears have many benefits, including the following:

¹ Bihar al-Anwar V.63 P.168

² Mustadrak al-Wasael V.16 P.404

- 1- It is known to be a digestive and sedative for the stomach and intestines.
- 2- it cures kidney diseases and it is a diuretic.
- 3- It helps building and regenerating cells.
- 4- It removes the pleural effusion which is resulted from the work of the heart, kidneys and liver.
- 5- It is useful to treat high blood pressure during old age and to treat atherosclerosis.
- 6- It is a good food for diabetics, as the sugar in it does not affect the health of people with the mentioned disease.

Quince

The same applies to quince which was mentioned when talking about the digestive system, as it works to strengthen the weak heart as stated in the saying of Imam Ali:

“Eating quince is the strength of the weak heart, it makes the stomach fresh, strengthens the heart, and encourages the coward”¹. Perhaps the reason for this is that quince contains calcium and some other necessary elements that help the heart to work which helps the heart to perform its functions properly when they are available in their normal quantities in the body.

Honey

Imam Ali recommended to consume honey because of its functional importance in a person’s life, as he said: “Honey contains a cure”².

He also said: “honey is a cure for every disease and there is no disease in it, it reduces the phlegm, and it brightens the heart”³.

¹ Al-Kafi V.6 P.357

² Al-Mahasin P.499

³ Makarim al-Akhlaq P.182

These commandments of the Imam came from the guidance of the glorious Qur'an like the clear verses: (There comes forth from within it a beverage of many colors, in which there is healing for men)¹. and as an addition to the commandments of the noble prophet Muhammad who said: "The puerperant has no cure from me like the ripe dates and there is no cure for the sick person like honey"².

Honey is a sugary substance produced by bees from the nectar of flowers, which is an important nutrient for the human body and health. Honey varies according to the diversity of the source of the nectar, whether it is from flowers or plant secretions. The color, smell, taste and density of honey varies accordingly.

The honey produced from the *Ziziphus spina-christi* is one of the finest types of honey in the world and it is distinguished by its dark brown color, pleasant aroma and delicious taste.

The ancient Greeks considered honey the gift of the gods and the true treasure of health. Honey was mentioned in many pictures, manuscripts, and papyri of ancient Egyptians and Sumerians. It was also mentioned in the Holy Quran and the heavenly holy books, and in the books of ancient Chinese and Indians.

Honey ingredients

Honey contains many ingredients, the most important are the following:

- 1- Sugars, such as glucose, fructose, and maltose.
- 2- Proteins such as globulin and nucleoprotein.

¹ Sura al-Nahl, verse: 69

² Kanz al-Ummal V.10 P.10

3- Acids, such as lactic, citric, acetic, formic, tannic and oxalic acids.

4- Enzymes such as amylase, invertase, and phosphatase.

5- Vitamins like thiamine, riboflavin, niacin, pantothenic, and vitamin K.

6- Various salts such as potassium, calcium, sodium, magnesium, aluminum, iron, zinc, copper, chromium and cadmium.

7- It also contains fiber and cholesterol.

According to the US Department of Agriculture, every tablespoon (21 grams) of honey produces 64 calories.

The benefits of honey

Honey has many benefits, including the following:

1- All kinds of honey help the circulatory system to perform its functions naturally, as it has been noted that it is useful in stimulating blood circulation, and in the treatment of many diseases of the heart and blood vessels.

2- It is used as an antibacterial substance.

3- It strengthens the immune system.

4- Very useful in treating children's diseases.

5- It facilitates digestion and relieves the body from constipation.

6- It is included in the composition of cosmetics due to its beneficial effect on the skin complexion, and it is used in the treatment of many skin diseases.

7- It is useful to the male and female reproductive systems, and it treats many cases of infertility in both sexes.

Lentils

Imam Ali said: “Eating lentils softens the heart and speeds up the tears”¹, as it was reported on the authority of Imam Al-Sadiq on the authority of his fathers who said: While the Messenger of Allah was sitting in his prayer niche, Abdullah ibn Al-Tayhan came to him and said to him: O Messenger of Allah, I sit with you so much and hear from you so much but my heart isn't affected and my tears don't come. Allah's messenger replied to him: O Ibn Al-Tayhan, you should eat lentils because it softens the heart, makes the tears run quickly, and it removes pride, and it is the food of the righteous, and seventy prophets have blessed it”².

Lentils is a plant that belongs to the legume family whose scientific name is *Lensculinaris*, and it is one of the fruits mentioned in the Holy Quran when in Sura al-Baqarah: (And when you said: O Musa! we cannot bear with one food, therefore pray Lord on our behalf to bring forth for us out of what the earth grows, of its herbs and its cucumbers and its garlic and its lentils and its onions)³.

Its ingredients

According to the US Department of Agriculture, each cup of lentils (approximately 200 grams) produces 230 calories and contains the following ingredients:

- 1- 1 - A large proportion of carbohydrates (about 40%).
- 2- Vegetable proteins (about 18%).
- 3- Fibers (about 16%).
- 4- Low fat.

¹ Al-Kafi V.6 P.343

² Makarim al-Akhlaq P.207

³ Verse: 61

- 5- Small amounts of potassium, calcium, magnesium, iron, copper and phosphorous.
- 6- vitamins (A, B, C), and folic acid.

Its benefits

Lentils have many benefits, including the following:

- 1- Lentils have an important role in the cardiovascular function, as recent studies have shown that adding lentils to food protects the heart and reduces its chances of having health problems and crises. The researchers found that men and women who regularly consumed legumes and lentils, especially four times a week, the danger of having coronary heart disease, for over 19 years, was 22% less than those who consumed them once a week.
- 2- Because lentil contains folic acid and magnesium, the aforementioned acid works to reduce the amino acid known as (homocysteine), which leads to many health problems in the body, including cardiovascular disease. Folic acid works to convert homocysteine into another amino acid known as (cysteine), which is a harmless substance.
- 3- As for magnesium, it works to get rid of free radicals (which are toxic substances that arise from chemical reactions inside the body) by not pumping them into the heart cells because those radicals increase in the body when the magnesium decreases from its normal limits.
- 4- The fibers in lentils collect cholesterol and get rid of it with the waste out of the body. So, it helps reducing the level of cholesterol in the body.
- 5- It contains iron, magnesium, copper, phosphorous and calcium, as we indicated earlier, and this is necessary for the formation of hemoglobin in the blood.

- 6- Lentils are essential for nerves because they contain vitamin (B).
- 7- Lentil peels prevent constipation.
- 8- Lentil peels contribute in protecting teeth from decay.
- 9- It causes diuresis.
- 10- Vitamin A and calcium play a major role in building bones and treating their diseases.
- 11- Vitamin A is essential for eye health.



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Nervous System

Nervous System

The nervous system consists of two secondary systems:

A - The central nervous system: It consists of two main parts, the brain and the spinal cord.

B - the peripheral nervous system: It consists of the nerves emerging from each of the brain which are 12 pairs and the spinal cord which are 31 pairs.

Brain

Because of the large number of sayings and speeches that were narrated about the brain in the ancient medicine, including the sayings of Ahlulbayt, it is useful to talk about this important part of the body with these few lines:

The weight of the brain after birth is about (350 grams), and in an adult man it is about (1400 grams), and it is slightly lesser in women about 6% of the weight of a men's brain, and due to the delicacy and looseness of the brain's structure which is resulting from the large quantities of water and other fluids that are about 85% of its total weight in general, and its special functional importance in the life and the body in particular, it is located within a bony box known as the cranium, to protect it from various external influences.

The brain is surrounded by three membranes, from outside to inside, which are the dura mater, the arachnoid and the pia mater.

The human brain consists of two basic layers, the first superficial, which contains gray matter, known as the cerebral cortex, which is composed of neuronal bodies, and has many convolutions to help increasing the surface area of the cerebral cortex. The cerebral cortex contains billions of nerve cells.

The second layer of the brain is an inner layer that contains the white matter that includes nerve cell fibers.

Sections of the brain

The brain consists of three main sections:

A- The cerebrum:

It forms the largest part of the brain, and is composed of two halves or two right lobes and two left lobes, between them there is a deep longitudinal slit. Each lobe is divided into four lobes: anterior, parietal, temporal, and occipital (posterior). This was from the anatomical side.

As for the functional side, the brain performs important functions such as controlling voluntary movements, emotional sense, thinking processes, learning and memory. It has been observed that the discrepancy in intelligence is due to the nature of the brain's tissue structure.

B - The cerebellum:

It is the largest part of the brain after the cerebrum, and it is located in the posterior part, below the occipital lobe. And it plays an important role in regulating voluntary movements and maintaining the body balance.

C - The brainstem:

It consists of the Pons and the Medulla oblongata.

Imam Jaafar al-Sadiq peace be upon him indicated that the brain is the location of the mind, by saying:

- “The location of the mind is the brain”¹.

He also described it in a detailed description in one of his famous conversations with his student al-Mufadhhal ibn Omar Al-Ju'fi, he said:

- "If you saw the brain, if it was exposed, you would see it wrapped in veils on top of each other to protect it from dangers and to hold it so that it would not be jumbled, and you would see the skull on it like the egg so that it protects it from strikes and knocks that may happen to the head, then the skull was covered with hair so it became like the fur of the head, covering it from the severity of heat and coldness. Who is the one who fortified the brain like this except the one who created it and made it the source of feelings and deserving caution and maintenance due to its importance over of the body and because of its high degree and rank”²

As for Imam Ali, he said about the brain:

- “Eat pumpkin, for it increases in the brain”³.
- “Eat squash because it increases in the brain”⁴.
- “Eat squash for we Ahlulbayt love it”⁵.
- The Messenger of Allah said: “You should eat pumpkin for it increases the mind and makes the brain grow”⁶.
- The Prophet said to the Commander of the Faithful: “Eat pumpkins because who eats it will have good

¹ Tuhaf al-Uqool P.371

² Bihar al-Anwar V.61 P.325

³ Al-Khisal P.632

⁴ Bihar al-Anwar V.63 P.228

⁵ Bihar al-Anwar V.63 P.227

⁶ Kanz al-Ummal V.10 P.44

character, and their face will be brightened, and it is my food and the food of the prophets before me”¹.

Pumpkin

Pumpkin is a plant of the cucurbit family also known as pumpkin, and it is scientifically called *Cucurbita moschata*, its fruits contain great nutritional and medicinal benefits.

And it was mentioned in the Holy Qur’an, Allah said in Surat Al-Saffat: "And We caused to grow up for him a gourd plant"(verse 146).

Its ingredients

Pumpkin fruits contain the following ingredients:

- 1- Water at about of 83%.
- 2- Fiber at about 6%.
- 3- Calcium, phosphorous, iron, magnesium, sodium and potassium salts combined at about 5%.
- 4- Carbohydrates at about 4%.
- 5- Protein at about 1%.
- 7- Fat (1%).
- 8- It also contains vitamins (A, 1B, 2B and C).

Its benefits

Pumpkin has important medicinal benefits, including the following:

- 1- The oil of the pumpkin seeds increases the power of intelligence and mental vitality in humans. Medical scientists in Germany have discovered a new substance

¹ Al-Dawwat P.154

known as the Encephalic stimulant, which has an important effect in stimulating the brain and developing brain convolutions. German scientists recently issued an obligatory order for all their institutions concerning the students and the general population to increase the consumption of pumpkin in their diets. Those scholars also recommended that all those working in the fields of mental activity in their countries, including thinkers, scientists, experts, teachers and students should focus eating squash in their daily diets.

- 1- It is useful to remove headaches and migraines, especially the psychological type.
- 2- Pumpkin calms nerves and mental illnesses, and it is a remedy for depression and insomnia because it contains important amino acids such as tryptophan.
- 3- It has been noted that pumpkin seeds or pumpkin seed oil are of great benefit in treating the enlarged prostate.
- 4- It is useful in breaking up kidney stones and treating kidney infections.
- 5- It's diuretic and tonic for the kidneys, and works to strengthen their functions.
- 6- It fights thirst and eliminates heat and fever.
- 7- It is useful for chest diseases and coughing.
- 8- It is laxative for the stomach.
- 9- Pumpkin seed oil reduces cholesterol in the blood because it contains unsaturated fatty acids, and lowering cholesterol in the blood reduces heart diseases and arteriosclerosis.
- 10- Pumpkin seeds have the ability to expel the tapeworm from the intestine.
- 11- Studies conducted in 1985 at the National Cancer Institute in the United States of America indicated that squash has a protective effect on lung cancer in New Jersey residents.

Honey

Imam Ali said: “Honey contains a cure”¹.

And “Honey is a cure for every disease and there is no disease in it ...”².

Honey components and benefits:

The components and benefits of honey were mentioned in detail before³. In addition to the many benefits of honey, it has important benefits to enhance the functioning of the nervous system. Among these benefits we mention the following:

- 1- It is useful for reducing nervous irritation, especially if it is taken in small quantities.
- 2- If taken in large quantities, it stimulates and alerts the nervous system.
- 3- It helps in treating memory impairment. And about him in this regard, Imam Ali said: “Three increase in memorization and removes the phlegm: reading the Qur’an, eating honey, and gum”⁴.
- 4- Honey reduces the incidence of cerebral edema.



¹ Al-Mahasin: p. 499

²² Makarem Al-Akhlaq, p. 182

³ P.49

⁴ Bihar al-Anwar V.66 P.444

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Food and Nutrition

Food and Nutrition

Food

It is all those humans or animals consume daily to live and build their bodies and providing the energy needed to perform their various vital functions.

Food nowadays is very different from what it used to be. In the past, food was fresh and local, but now it is either local or imported, fresh or preserved with preservatives and special containers to facilitate transport and circulation when needed. The cultivation of plants nowadays is also different from the cultivation of plants in the past, as most of them are now grown under artificial environmental conditions of their own, such as greenhouses, for example, and chemical fertilizers that differ from natural fertilizers to a great extent. Also at the present time, many genetic modifications were made to plants in order to improve them or change some of their properties in general.

Types of food

The food that a person needs is classified into the following main groups:

1- Water:

Imam Ali said: “Water is the best of drinks in this world and in the Hereafter”¹. Is there any more eloquent saying than this, and it is derived from the words of Allah in Surat Al-Anbia’:

“We made from water every living thing”².

¹ Bihar Al-Anwar: Part 63; p. 454

² verse 30

Yes, water is included in every living thing, it is the basic compound in building the bodies of living beings. Scientists also consider it the basis of life on any planet.

As for prophet Muhammad, he said: “Fever or the intensity of the fever is from the heat of Hell, so cool it with water”¹.

Modern medicine still treats some types of fevers with water, using ice packs or cold water to be placed on the head to relieve the heat, and on bruises in order to avoid the bad consequences of the high temperature. Water is also given to the patient who lost fluids to compensate that loss.

Water is a chemical compound made of two hydrogen atoms and one oxygen atom. It is present in its three known states: solid, liquid and gas.

And every living being is made mostly of water. For example, the human body contains (65-70) % of its general weight water, and each person needs 4-2 liters of it per day, as humans cannot live without it for more than three days.

Water is considered a pure substance in many religions, as it is used to purify and dissolve sins. In Islam, it has a great position, as it was mentioned under the name (water) in 17 verses, and under the name (the water) in 34 verses. Water is used for purification and ablution in every prayer, and for washing the dead before burial. It is also used in Christianity for baptism, and Jews use it for purification. As for the Sabeans, they the decrees of the marriage happen with water, and all living things need water to perform their vital processes, and some of the most important benefits of water for the human body, we mention the following:

- Water is a good solvent for salts, vitamins and amino acids.

¹ Al-Tibb Al-Nabawi: p. 25

- It plays a vital and important role for digesting nutrients.
- Water is a medium for transporting various substances inside and outside cells.
- the body.
- It plays a major role in regulating absorption processes.
- It is a safe medium to get rid of toxins and waste products.
- It works to regulate the body temperature.
- It is essential for the release of energy within the body.
- It is useful in compensating for lost fluids.

2- Carbohydrates:

They are organic compounds composed of carbon, hydrogen and oxygen, and the ratio of hydrogen to oxygen is like their ratio in water (2: 1). There are two types of carbohydrates: Simple and complex, simple sugars are known as glucose, fructose, and lactose. As for the complex, it is known as starches like cellulose. And one gram of carbohydrates provides the body with four calories.

3- Fats:

Organic compounds contain elements of carbon and hydrogen as well, but the ratio of hydrogen to oxygen is not like their ratio in water, and it provides the body with caloric energy, which is twice the energy produced by sugars, as it reaches nine calories for every one gram of fat.

4- Proteins:

They are large organic compounds consisting of nitrogenous building blocks known as (amino acids), and they are distinguished by their containment of the nitrogen component that distinguished them from both carbohydrates and fats, and every one gram of protein provides the body with four calories.

5- Vitamins:

They are complex organic compounds needed by the body in relatively small quantities, and are essential for the maintenance of the body for its growth and for protection from diseases. Vitamins consist of two basic types, which are water-soluble vitamins such as vitamins (B) and vitamin (C), and fat-soluble vitamins such as vitamins (E, D, A, and K).

The following is a brief summary about each of these vitamins:

- Vitamin (A), found in vegetables and fruits, fish oil, eggs and milk. It is necessary for the eye functions and it prevents cold and flu.
- Vitamin (B1), known as Thiamin. It is found in meat and whole grains, and it is essential for converting carbohydrates into energy.
- Vitamin (B2), known as riboflavin, and it is found in vegetables, milk, cheese, liver and fish.
- Vitamin (B6), it is called pyridoxine or pantothenic acid. It is found in many foods, and it plays important roles in chemical reactions within the body.
- Vitamin (B) complex, known as folic acid. It is found in the leaves of vegetables and animal products such as liver. This vitamin plays an important role in the formation of red blood cells and it helps nerve cells to perform their functions.
- Vitamin (C), called Ascorbic acid. It is found in fruits, especially oranges and lemons, and vegetables such as tomatoes and green peppers. It helps preserving ligaments, tendons and other supportive tissues in the body, and protecting the body from scurvy.
- Vitamin (D): This vitamin is found in cod liver oil, milk and eggs. It also forms in the skin when it is exposed to

sunlight. Vitamin D is useful for the growth of bones and teeth.

- Vitamin (E), known as Tocopherol. It is found in vegetable oil and in grains, and in small quantities in most types of meat, fruits and vegetables. This vitamin is necessary in maintaining cellular membranes and protecting the body from some types of infertility.
- Vitamin (K), various vegetables contain this vitamin, and it can also be synthesized inside the body (in the intestine) by special bacteria called coliform bacteria. And its role is the occurrence of blood clotting mechanisms when bleeding occurs.

5- Minerals:

The body needs small amounts of minerals in the daily meals, which form 4% of the human body weight. Unlike carbohydrates, fats, proteins and vitamins, minerals are inorganic compounds. Among the most important of these elements are sodium, calcium, potassium, magnesium, phosphorous, sulfur, iron, copper, zinc and selenium.

Minerals play important roles in building the body and activating the chemical reactions that take place within it, as well as contributing to the regulation of the acid-base balance in the body. The body needs the first four types of food in large quantities, so they are known as macronutrients. As for vitamins and minerals, the body needs them in small quantities only, so they are known as micronutrients.

Food specifications

The general specifications that must be provided in food should be observed in order for it to play its role in building the body. Among these specifications, we mention the following:

- 1- It must be clean and free of pollutants.
- 2- It must be easily digestible in a way that does not affect the nature of the work of other body organs.
- 3- The food should suit the type and nature of the work performed by the person.
- 4- It should not conflict with the disease which the person has.
- 5- Its quantity should be appropriate to the actual need of the body. There is a mathematical relationship (arithmetic) to know the need of the body of food depending on the weight and height of the human being.
- 6- The formation of fats inside the body should be prevented, and if this is not possible, it should not exceed 30-40% of the daily energy intake.
- 7 - Reducing the amount of cholesterol in the body, by reducing the consumption of animal fats, which are very rich in cholesterol, and increasing the consumption of vegetable oils that originally contain very little of it.
- 8- The food should not contain large amounts of sugar.

Antioxidants

As long as we are talking about foods and their types, it is worth mentioning the topic of antioxidants. It is known that the cells of the body are oxidized with the passage of time, which leads to the weakening of their vital functions and the infection of the body with various diseases such as immunodeficiency, cancer and heart and brain diseases. Antioxidants are molecules capable of slowing or preventing oxidation of other molecules in the body. Perhaps the most famous of these antibiotics are vitamins.

The value of food in building the body and running its functions lies in the fact that it contains antioxidants that prevent the occurrence of oxidants that lead to impeding the normal functions of the body's cells that cause diseases, and what the Imam described in terms of foods to enhance the health of the body comes within this precise scientific context of choosing the appropriate foods for the body's normal functioning.

Nutrition

It is the mechanisms that explain the relationship of food with the activity of the living beings in general and humans in particular, and they include: eating food, and digesting it inside the body to release energy, and the basic components needed to build the body, and the performing its various vital functions through what is known as metabolism.

Nutrition has a special system to provide health to the body and prevent the occurrence of diseases, so any disturbance in the diet will undoubtedly lead to an impact on human health and the emergence of various diseases.

Food therapy has been one of the most important foundations of medical treatment for many diseases from ancient times to the present day. Diet is one of the most important treatments for many diseases.

In this regard, the Noble Quran urged people to avoid overeating, like what Allah said in Sura Al-A'raf: (And eat and drink and be not extravagant; surely, He does not love the extravagant)¹.

The Holy Prophet Muhammad illustrated the importance of food and diet and its relationship to the body's organs by saying: “The

¹ verse 31.

stomach is the home of disease and diet is the head of every medicine, and give everybody what it is accustomed to”¹.

As for Imam Ali, he illustrated the value of food in a people's life and how to control it to preserve the public health of the individual and prevent diseases. He said: “Do not seek life in order to eat, but rather seek food in order to live”².

And he said: “He who observes eating his health will increase, and his idea will be correct”³.

“He who plants in himself the love of different varieties of food will reap the fruits of different diseases”⁴.

Some examples of food

Imam Ali referred to most types of food that the body needs to perform its vital functions, through many of his commandments and eloquent wisdom that were mentioned in the previous sections. We will devote this part to mention other types, which are as follows:

- **Grapes**

Imam Ali said: “Grapes are condiment, fruits, food and sweets”⁵.

On the authority of Ali ibn Musa al-Redha, on the authority of his fathers from Imam Ali that: “He used to eat bread with grapes”⁶.

Grapes are among the pulpy fruits with soft peels and they are found in clusters of between six to three hundred fruits in a single

¹ Tib al-Nabi P.2.

² Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 P.333.

³ Uyoon al-Hikam wa al-Mawaez P.155.

⁴ Uyoon al-Hikam wa al-Mawaez P.426.

⁵ Mustadrak al-Wasel V.16 P.392.

⁶ Makarim al-Akhlaq P.174.

cluster, and they belong to the *Vitis labrusca* and *Vitis vinifera*, which include several main species, including *Vitis*, *Vitis riparia* and others.

Grapes have been known as food for humans since ancient times, as the inscriptions and drawings discovered in temples in Syria and Greece dating back to 2440 BC indicated that.

Its ingredients

Each cup of grapes, weighing about 150 grams, produces 104 calories when consumed, and that cup contains the following:

- 1- Carbohydrates: about 27 grams.
- 2- Sugar: 23 grams.
- 3- Fibers: up to 1.5 grams.
- 4- Proteins: about one gram.
- 5- Fat: up to a quarter of a gram.
- 6- It contains vitamins such as vitamin C in a large quantity, group of vitamins (B) and vitamin (K).
- 7- Grapes also contain a number of elements such as potassium, calcium and sodium.

Benefits of grapes

Grapes benefit in the following cases:

- 1- Resveratrol, found in grapes, reduces cholesterol in the body, which reduces heart disease.

2- It works as an anti-cancer substance which protects the body from the accumulation of free radicals, hence it is a good anti-cancer substance.

3- The boron element found in grapes increases the estrogen hormone in females (upon reaching menopause), and thus it works to reduce the chance of developing osteoporosis.

- **Raisins**

Imam Ali said: “Raisins strengthen the heart, remove sickness, quench the heat, and delight the soul” (1).

On the authority of the Prophet Muhammed that he said: “Have raisins, for it removes the gall and the phlegm, strengthens the nerves, removes fatigue, improves mood, refreshes the soul, and removes sadness” (2).

Among the benefits of raisins what was mentioned in the prophetic medicine of Ibn Qayyim al-Jawziyya:

"The finest raisins are the large one which peels are thin and its seeds are removed which, when eaten, improve lungs, treat coughing, kidney and bladder pain, and strengthen the stomach and purge the abdomen.

As for Ibn Sina, he said: “Raisins are the friend of the kidneys and the stomach, and grapes and raisins in their seeds, meaning each one of them, are good for intestinal pain, and raisins benefit the kidneys and the bladder.”

Raisins are dried grapes, their scientific name is *Vitis vinifera* L, and every 100 grams of it, according to the US Department of Agriculture, contains 299 calories, while the same amount of fresh grapes contains much less than that.

Raisins are produced in many parts of the world, such as the United States of America, Australia, Argentina, Turkey, Syria, Iran and South Africa. There is a seedless type of it known as the Sultani grape. White grapes, with its various types, are among the best grapes for making raisins.

To obtain raisins, the grapes are dried in the sun, or in the shade in special ways.

Its contents

Raisins contain a large carbohydrate content of about 71 grams per 100 grams of weight, about the quarter of it is water (24 grams), a small percentage of proteins and much less (about half a gram) of fat. Raisins also contain small amounts of protein and fiber and very small amounts of phosphorous, iron and calcium, in addition to containing vitamins (B1) and (B2).

Its benefits

There are many benefits of raisins, among which we mention the following:

- 1- Helps removing toxins from the body.
- 2- It resists microbes and viruses.
- 3- It is useful in treating rheumatism.
- 4- It lowers high blood pressure.
- 5- It is useful in treating diseases of the liver and gallbladder.
- 6- Raisins contain compounds that fight the oral bacteria that cause tooth decay and gum disease.
- 7- It works to prevent many diseases because it contains vitamin (C) and the bioflavonoids group of antioxidants.

8- It is useful for getting rid of stomach ache and burning stomach and intestines.

9- It is prescribed for the treatment of chest flu and chest burn.

- **Watermelon**

Imam Ali said: “Watermelon is the fat of the earth. There is no disease or danger in it”¹.

And he said: “there are ten characteristics in it: It is food, drink, fruit, basil, condiment, sweet, rinsing, snout, clover, and medicine”².

As for the noble Messenger, he said about watermelon: “Have watermelon, for it has ten characteristics: it is food, drink, rinsing, and basil, it washes the bladder and the stomach and it increases the water of the back, it improves the intercourse, it cuts off the coldness, and it purifies the skin”³.

It was called the fat of the earth because it is similar to grease when it is extracted from the earth. As for the rinsing, it is because it cleans the mouth, and a snout for his effect of softening the skin when eaten⁴.

And it was reported in Bihar al-Anwar book that Imam Ali used to eat watermelon with sugar⁵.

And he said: “The Prophet was brought watermelon and ripe dates, and he ate from them and said: These are the two delicious foods”¹.

¹ Bihar al-Anwar V.66 P.194.

² Bihar al-Anwar V.66 P.194.

³ Tib al-Nabi P.8.

⁴ Tib al-Imam Ali by Muhsin Aqeel P.83.

⁵ Bihar al-Anwar V.66 P.196.

Watermelon is a summer fruit known as melon in Arab countries other than Iraq.

Watermelon ingredients

According to the US Department of Agriculture, every 100 grams of watermelon produce 34 calories. It also consists of the following ingredients:

- 1- It consists of 92% water.
- 2- Sugar is about 16%.
- 3- Fatty substances by 43%.
- 4- It contains sulfur, phosphorous, calcium, potassium, chlorine and iron.
- 5- Protein materials up to 27%.
- 6- Vitamins (A) and (C).

Watermelon Benefits

Watermelon has many benefits, including the following:

- 1- Breaks the kidney stones and it is a diuretic.
- 2- It is used to fight hemorrhoids.
- 3- It increases in the sexual drive.
- 4- Watermelon resists the high blood pressure.
- 5- It is used as an excellent remedy for constipation because its fiber expels the waste accumulated in the intestinal wall.

¹ Bihar al-Anwar V.66 P.196.

6- It is used in cosmetics as a treatment for skin tumors, and its water purifies the skin and complexion from freckles.

- **Lettuce**

Imam Ali said: The Messenger of Allah said: “Eat lettuce, because it causes sleepiness and digests food”¹.

Lettuce is a plant belonging to the Asteraceae family, and it is one of the vegetables whose leaves are eaten fresh or in salads, and its scientific name is *lactuca sativa*.

Its contents

A weight of 100 grams of lettuce contains different materials, including the following:

- 1- Sugar substances up to five grams.
- 2- Fatty substances, (0.4 g).
- 3- Lettuce contains many vitamins such as: (E, D, C, B, A).
- 4- There are many minerals in lettuce, such as iron, copper, calcium, phosphorous, manganese, iodine, and chlorine.
- 5- Lettuce contains lactucarium.
- 6- Lettuce also contains fiber.

The aforementioned weight of lettuce produces about 30 calories.

Lettuce Benefits

Modern medicine confirmed the eloquent saying that Imam Ali conveyed from the Holy Prophet Muhammad, that lettuce plays a

¹ Bihar Al-Anwar: V.63 P.239.

great role in facilitating the digestion of food, combating constipation, and increasing the appetite for food.

Recent studies have also shown that lettuce calms the nerves and relaxes the body by the lactucarium substance in it, which is an analgesic and anti-spasmodic substance.

- **Garlic**

It's a biennial herbaceous plant belonging to the garlic family, and its cultivation spread all over the world, and China, India, South Korea, Russia, the United States of America and Egypt, respectively, come first. Garlic is known scientifically as *Allium sativum*.

The nutritional value of garlic was known since ancient times, since the times of the Pharaohs, the Sumerians and the Greeks. The inscriptions engraved on the pyramids of Giza indicated that the pharaohs knew the benefit of this food, as it was stated in their stories that garlic was distributed to the workers who built the pyramids before starting their work in order to provide them with strength and protect them from diseases.

About that, Imam Ali said: “The Messenger of Allah said: Eat garlic and be treated with it, for it contains the cure for seventy diseases”¹.

Regarding his well-known strong and sharp smell, Imam Ali said: “Treat with garlic, but do not go to the mosque”².

As the Holy Prophet said: “Whoever eats garlic and onions should not come to the mosque”³.

¹ Jawahir al-Kalam V.14 P.127

² Thakirat al-Ma’ad V.2 P.250

³ Mustadrak Safinat al-Bahhar V.1 P.538

It is preferable to have cooked garlic, especially for those who suffer from digestive problems, after removing the irritating substances from it through cooking. Regarding this, Imam Ali said: “Garlic should not be eaten except cooked”¹.

Garlic ingredients

Each 100 g of garlic contains about 470 calories. Garlic consists of a set of basic ingredients as follows:

- 1- Water is about 60-65% of its weight.
- 2- Carbohydrates, by about 23-30% of its weight.
- 3- Proteins, 3 - 5.5%.
- 4- Fiber, at 3.5%
- 5- Special ingredients known as “Alliin”, “Alliinase”, “Allicin” and “Secrodenine”.
- 6- Mineral salts such as calcium, phosphorous, sulfur, iron and chlorine.
- 7- A group of vitamins such as (A) (B) (C).

Garlic Benefits

Garlic has great health benefits, including the following:

- 1- Garlic prevents blood clot formation by maintaining blood fluidity, due to the presence of (Allicin).
- 2- The Alliin substance present in garlic is used as an anti-cancer substance.
- 3- It works to maintain the level of cholesterol in the blood.

¹ Al-Mahasin V.2 P.513

- 4- It is used in the treatment of bee and insect stings.
- 5- It is useful for relieving dental pain.
- 6- It works to strengthen the body's immunity.
- 7- It helps prevent polio to a great extent.
- 8- It protects diabetics from the complications of numbness and the loss of sensation in the limbs.
- 9- It works to prevent memory loss.
- 10- It is useful as an anti-depressant.
- 11- It works to lower blood pressure, as it treats in particular Arterial hypertension by blocking the formation of angiotensin; it also works to prevent the formation of thromboxane which shrinks blood vessels, and it does not affect another substance whose task is to maintain blood flow, known as (Prostacyclin).
- 12- It works as a tonic, and as an aperitif.
13. Garlic is an antispasmodic.
- 14- It works to protect against cold and flu, coughing, and to remove coryza.
- 15- It is useful to improve the male sexual drive.

- **Leeks**

Imam Ali said: “Everything has a master and the master of herbs is the leek”¹.

It was also reported in Bihar Al-Anwar by Al-Majlisi that the Commander of the Faithful used to eat leek with crushed salt¹.

¹ Al-Mahasin P.510

On the authority of Salamah, he said: I complained when I was at al-Madinah with from a severe illness, and I came to Abu Al-Hassan who told me: "I see you pale!" I said: Yes. He replied: "Eat leeks". So I ate it and I was healed"².

As for the Holy Prophet Muhammad, he said: "Leek is like bread in food"³.

Leek Contents

The chemical analysis of leeks showed that every 100 g of it contains the following substances:

- 1- Water 90%.
- 2- Sugar, up to 5 grams.
- 3- Protein, about one gram.
- 4- Some salts and minerals such as calcium, phosphorous, potassium, manganese, iron, sulfur and silicon.
- 5- Vitamins (A), (B), (C) and (K) and on folic acid.

Leeks benefits

Leek has many benefits, including the following:

- 1- Expectorant food.
- 2- Diuretic.
- 3- It expels worms.
- 4- It has an anti-bacterial effect, especially Staphylococcus aureus.

¹ Bihar al-Anwar V.26 P.202

² Al-Mahasin P.512

³ Firdaus V.1 P.127

- 5- It resists anemia due to its iron content.
- 6- It stimulates the nervous system because it contains magnesium.

- **Radish**

From Imam al-Redha from his fathers that the Commander of the Faithful said: “The radish originally stops phlegm and digests food, and its leaves steep urine”¹.

Radish is a root vegetable and belongs to the cruciferous family.

Its contents

Each 100 grams of radish produces 16 calories, and it contains the following materials:

- 1- Water at about 93%.
- 2- Proteins.
- 3- Carbohydrates.
- 4- Very little fat.
- 5- Mineral salts such as calcium, iron, sulfur, manganese and iodine.
- 6- Its leaves are rich in vitamins (C) and (A).

Its benefits

Among the benefits of radish, we mention the following:

- 1- expels wind from the guts.
- 2- Digests food.

¹ Makarem Al-Akhlaq: p. 208

- 3- It treats stone-forming illnesses in the gallbladder and liver ducts.
- 4- It treats throat congestion.
- 5- Prevents osteoporosis.
- 6- It is considered an appetizer
- 7- It prevents the formation of blood clots and their diseases.
- 8- Helps preventing coughing and asthma.
- 9- It prevents anemia due to its iron content.
- 10- Prevents tooth decay due to the presence of an oral substance that counteracts the enzymes responsible for the occurrence of that decay.

- **Chicory**

Imam Ali said: “Have chicory, for it came out of Paradise”¹. The Imam meant by that, that this plant is blessed, and that refers to the many benefits of eating it frequently.

The chicory is an herbaceous plant of the compound family known as (Asteraceae). It is an annual and perennial plant which flowers are soft blue and some are yellow. These flowers open in the early morning and close in the afternoon. It is also called (the cat's eyes) or (the wild cherry). Its scientific name is (Cichorium intybus). The chicory plant is bitter in general, and spreads in all regions of the Middle East, and blooms in the months of July, August and September. The parts eaten are the roots and the flowering herb.

Chicory contents

¹ Bihar al-Anwar V.66 P.206

Chicory contains the following:

- 1- Inulin in the roots.
- 2- Sugars.
- 3- Proteins.
- 4- Fats.
- 5- Vitamins (K), (C), (B) and (A).
- 6- Amino acids.
- 7- Various mineral salts.
- 8- Other substances such as tannins, resin, Tarxien, choline and acticin.

Benefits of chicory

Chicory has many benefits, including the following:

- 1- Helps with the stimulate, emptying and disposing the bile.
- 2- It helps to revitalize the liver by containing the substance Tarxien.
- 3- An aperitif.
- 4- Reduces blood sugar.
- 5- It causes diuresis.
- 6- Helps to strengthen muscles.
- 7- It works to break up gallstones.
- 8- It works to break up kidney stones.
- 9- Relieves goiter.

10- Helps treat bladder infections.

11- It produces milk for breastfeeding women.

12- It is useful for relieving psychological tensions.

- **The seed of Fennel flower**

Imam Ali said: “There is no disease but in the black seed of Fennel flower there is a cure for it except death.”¹

And the Holy Prophet said: “You should eat the seed of Fennel flower because it contains a cure for every disease except death.”²

And “the best treatment for you is cupping, the black seed of Fennel flower, and Costus”³.

And “He who made diseases made medicine for them, and the best medicine is cupping, bloodletting and the black seed of Fennel flower”⁴.

The black seed of Fennel flower is an annual herbaceous plant that belongs to the family of Ranunculaceae, and there are more than twenty varieties of them and the most used of these varieties in the medical fields is the cultivated black seed, which is scientifically called (*Nigella sativa*). This seed is one of the oldest medicinal plants used. The hadiths of the Prophet and Imam Ali were an incentive for ancient and contemporary doctors to research, study, and investigate the secrets of this plant and its medicinal value.

The composition of Fennel flower

¹ Tuhaf al-Uqool P.124

² Al-Tibb al-Nabawi P.223.

³ Mustadrak al-Wasel V.16 P.450.

⁴ Da'em al-Islam.

The black seed of Fennel flower has been studied by many scientists and researchers, since ancient times until now, and its components were analyzed and many of them were extracted, and from these components we mention the following:

1- Proteins:

They are present in a high proportion, up to 20% of the total content. A large number of amino acids were noticed such as valine, methionine, threonine, leucine, glycine, cysteine, alanine, among others. It was noted that the amino acid arginine is the most abundant.

2- Fats:

It includes a number of saturated and unsaturated fatty acids such as linolenic, arachidic, eicosanoid, palmitic and olein acids.

3- Carbohydrates:

The proportion of it in the black seed reaches nearly 20% and includes the sugars fructose, glucose and sucrose.

4- Vitamins: such as vitamins (B), (C) and (E).

5- Minerals:

It includes mineral elements such as potassium, sodium, calcium, zinc, magnesium and manganese.

6- Other compounds:

There are other compounds in the volatile oils of the black seed of Fennel flower, such as thymohydroquinone (0.5%) and Nigellone (2-5%) of the volatile oil. The oil also contains phenols and it contains antibiotics that kill microbes.

Its benefits

Among the many therapeutic benefits of the black seed, we mention the following:

- 1- Nigellone is useful for asthma, bronchitis and whooping cough, and is also used as an expectorant and anti-cough.
- 2- It works to relax the muscles in general.
- 3- It is useful in treating renal colic.
- 4- An appetizing.
- 5- When mixed with honey, it is useful in treating back pain.
- 6- It is useful for getting rid of nematodes and tapeworms.
- 7- It stimulates the immune system.
- 8- It works to inhibit the growth of bacteria, especially Gram-positive and Gram-negative bacteria.
- 9- It has been shown to be useful in stopping the growth of tumors such as breast and prostate cancer.

- **The Eggs**

It was narrated in Bihar al-Anwar from Imam Ali: “A prophet complained to Allah exalted be He the lack of children in his nation, so he commanded him to order them to eat eggs, so they did it, and the number of their offspring increased”¹.

Eggs form an important part of the human diet in many countries of the world.

Chicken eggs are an essential source of many food ingredients.

Egg ingredients

The weight of a chicken egg ranges between 25 and 65 grams, and one egg gives about 100 calories.

The egg consists of two main parts: the first is the egg white which is about two-thirds of the weight of the egg. The second section is the egg yolk which is surrounded by the white, and it forms about a third of the weight of one egg. Egg whites contain a large proportion of albumin protein about 80% by weight of the white,

¹ Al-Mahasin P.381

and the rest of that includes water and a little salt, in addition to containing vitamins (B) and (E).

As for egg yolks, it consists of the following materials:

- 1- Fat at 30% of the weight of the yolk.
- 2- Protein, by 15%.
- 3- Essential minerals such as calcium, iron and phosphorous.
- 4- Eggs contain several forms of carotenoids, such as lutein and xanthine which are antioxidant-like compounds that play an important role in preventing vision loss, especially in the elderly. They also work to reduce cataract.
- 5- Eggs also contain choline, a compound necessary for human brain and memory development.
- 6- Vitamins such as (A, B, and D).
- 1- 7 - Little water compared to what is in the egg white, as it constitutes of about 5% in the yolk, while the water may reach about 20% of the weight of the egg white.

Eggs Benefits

Eggs, as we indicated earlier, are a complete food that is considered one of the best foods and among its most prominent benefits, we mention the following:

- 1- It is useful for strengthening sexual ability.
- 2- It immunizes children against rickets.
- 3- It immunizes children anemia.
- 4- It is beneficial for pregnant women.
- 5- It strengthens memory.
- 6- It helps fighting the diseases of the eye, ear, mouth and nose.

Medical use of eggs

Eggs are used for purposes other than nutrition. There are many applications in which chicken eggs are used on a medical level, for example, or at other levels. Among these cases, we mention the following:

- 1- Using chicken to produce antibodies to certain types of bacterial and viral diseases that the hen collects in the egg, and then extracting them and using them later to treat humans.
- 2- Extracting certain peptides from the albumin protein known as (Ovotransferrin), which has a strong anti breast and prostate cancer effect.
- 3- Production of a type of fiber called collagen to be used as a raw material in many cosmetic products in Japan.
- 4- Eggs are also used in making soaps, inks, and paints.
- 5- Eggs are used in the production of salicylic acid, which is widely used in the production of aspirin.
- 6- Using crushed eggshells to extract calcium and add it to the human diet.
- 7- The lecithin substance which is present in egg yolks plays a major role in forming the cell wall, after it is combined with phosphatidylcholine. The substance resulting from the aforementioned combination is essential in the synthesis of the nerve conductor known as (acetylcholine), which plays an important role in developing the processes of remembering and learning.

- **Milk**

The Commander of the Faithful said: “Drinking milk is a cure for every disease except death” (Al-Khisal P.636).

And “cow’s milk is medicine”¹.

¹ Al-Mahasin P.393

And “The best milk which a child might have is the milk of his mother”¹.

And it was narrated from Imam Ja’far al-Sadiq that he said: “Ali used to like to break his fast with milk”².

It was narrated from the prophet Muhammad his saying: “God has not sent down a disease except that He revealed a cure for it, and in cow’s milk there is a cure for every disease”³.

And “nothing is sufficient for food and drink except milk”⁴.

Milk was mentioned in more than one place in the Holy Qur’an, for example, it came in Surat An-Nahl in Allah's saying: "And verily in cattle (too) will ye find an instructive sign. From what is within their bodies between excretions and blood, We produce, for your drink, milk, pure and agreeable to those who drink it"⁵.

Milk provides the body with a wide range of necessary substances that it needs in all stages of its growth and development, and it is the most complete food from a biological point of view, and it is better than any single food.

Milk contents

The general analysis of milk showed that it was composed of the following substances:

- 1- Water, 86%.
- 2- Proteins, by 8%.
- 3- Sugars, by 5%.

¹ Al-Kafi V.6 P.40

² Ramz al-Sahha fi Tib al-Nabi wa al-Aymma P.257

³ Kanz al-Ummal V.10 P.31

⁴ Mustadrak al-Wasael V.16 P.208

⁵ An-Nahl Verse: 66

4- Vitamins: such as vitamins (C), (D) and (A), thiamine, riboflavin, niacin and biotin.

5- Minerals and salts, such as calcium, phosphorous, sodium, potassium, iron and manganese.

Milk benefits

Among the many benefits of milk, we mention the following:

1- It has a great health value in healing digestive disorders, and it is a medicine useful for chronic diarrhea, for example.

2- The proteins in milk provide the body with the antibodies necessary for the formation of the natural immunity.

3- Calcium and vitamin D in milk build bone tissue in the body, so it is very important for the growth of children, especially infants.

4- Vitamin (A) plays an important role in the formation of photoreceptors in the retina, especially in dim light or at night, so it is considered one of the necessities for the prevention of night blindness.

5- It is essential in providing the permanent vitality of the body and the safety of organs from diseases, so it is considered one of the most important foods that contribute to the prolongation of human life.

6- There are many studies published on the relationship between milk and cancer. There is a study that was published in the famous medical journal The Lancet in 1985, carried out by Dr. Garland from the University of California, USA. He studied the food eaten by a thousand men over a period of twenty years and found that those who drank two and a half glasses of milk a day were less likely to develop colon cancer much more than those who do not

drink milk. Doctors from Japan also proved that consuming milk reduces the incidence of stomach cancer.

7- Scientists from New York University discovered that milk contains prostaglandin, which protects the body from ulcers.

- **Dates**

It is a summer fruit harvested from palm trees, spread in the Arab countries, and the number of its types is more than 600 species. Dates received great interest in ancient civilizations for more than five thousand years. Dates also have a great place in the minds and hearts of Muslims, as it was mentioned and the palm trees in many places in the Holy Qur'an, like the following verses:

"And shake towards thyself the trunk of the palm-tree: It will let fall fresh ripe dates upon thee"¹.

"And from the fruit of the date-palm and the vine, ye get out wholesome drink and food: behold, in this also is a sign for those who are wise"².

"And lofty palm trees having fruit arranged in layers"³.

Dates were also considered one of the best foods recommended by the Holy Prophet Muhammad, as he said:

"Whoever wakes up and eats ten Ajwa dates will not be harmed by magic or poison on that day"⁴.

¹ Sura Maryam, Verse: 25

² Sura An-Nahl, Verse: 67

³ Sura Qaaf Verse: 10

⁴ Makarim al-Akhlaq P.185

And “You should eat Al-Birni dates¹, for they relieve fatigue, warm from coldness, satiate from hunger, and contains seventy-two forms of healing”².

Dates contents

Chemical studies have shown that dates consist of the following components:

- 1- carbohydrates; by 75%.
- 2- fats By 2.5%.
- 3- cellulose fibers; by 10%.
- 4- water; About a third of the weight of the date.
- 5- mineral salts; Its proportion reaches 3.1 percent, and among the most important are sodium, calcium, potassium, iron, phosphorous and magnesium.
- 6- vitamins; such as vitamins (C), (2B), (1B) and (A).

The percentages above differ slightly from one type of dates to another.

The benefits of dates

Dates have many benefits, including the following:

Because of the very few fats that dates contain, they are a good food for slimming the body.

- 1- Treats anemia because it contains iron.
- 2- It helps protecting the skin from drying out.
- 3- The large amounts of sugars in it helps in building muscle.
- 4- For the above reason, dates are useful in stimulating the movement of the uterine muscles to facilitate natural childbirth in pregnant women.

¹ Al-Birni is one of the best types of dates and it's red with some yellowness

² Makarim al-Akhlaq P.185

- 5- Because it contains antioxidants, it plays a protective role against cancer.
- 6- It treats chronic constipation by activating the bowel movement because dates contain cellulose fibers.
- 7- It prevents nerve disorder and helps maintaining the integrity of the nervous system, because it contains vitamin (B) and a high percentage of sugar and potassium.
- 8- It is useful in treating tooth decay and reducing its decay, because it contains a high percentage of fluorine.
- 9- It stimulates the immune system.
- 10- It is useful in preventing night blindness because it contains vitamin A.
- 11- The vitamin (A) present in dates also contributes to the growth of the body.

- **Vinegar:**

Imam Ali said: “What a good condiment vinegar is! It breaks bile, quenches gall, and revives the heart”¹.

And it was narrated that the Prophet Muhammad said: “What a good condiment vinegar is! O God, bless vinegar! And a house in which there is vinegar there won't be poverty”².

Vinegar is a dilute solution of acetic acid, chemically symbolized by HC₃COOH, obtained from the fermentation of most fruits such as dates, grapes and apples. Apple cider vinegar is the most popular due to its ease of production.

Its contents

¹ Al-Mahasini V.2 P.284.

² Al-Tibb al-Nabawi P.229.

According to the information of the US Department of Agriculture, a cup of vinegar (about 240 grams) generates (50) calories.

As for the weight of each (100) grams of vinegar, it contains basic ingredients, the proportions of which vary according to the materials from which the vinegar is made, and these ingredients are:

- 1- Acetic acid: 4% of its total weight.
- 2- Water: 93 grams.
- 3- Proteins: up to 0.2 grams.
- 4- Sugars: by 0.6 grams.
- 5- Some salts and minerals such as potassium (90 milligrams), and phosphorous (25 mg), sodium (20 mg), magnesium (20 mg), calcium (15 mg), and iron in the amount of half a milligram.

Vinegar benefits

Vinegar has many benefits in treating various bodily diseases. Among those benefits are the following:

- 1- It is used to reduce weight and get rid of obesity.
- 2- It lowers cholesterol levels in the blood.
- 3- It lowers blood pressure.
- 4- It prevents toothache and strengthens the gums.
- 5- Calms the pain caused by rheumatoid arthritis.
- 6- Helps reducing asthma.

- 7- Contributes to the treatment of colic, vomiting and diarrhea.
- 8- It helps to get rid of coughing.
- 9- It is useful in getting rid of chronic headaches.
- 10- It works to combat insomnia.

- **Salt**

The Commander of the Faithful said: “Whoever eats salt at the beginning of every meal, seventy diseases will be removed from him, and what only God knows”¹.

The Prophet Muhammad said to Imam Ali: “O Ali, begin your food with salt and finish it with salt, because whoever begins his food with salt and finishes it with it, God will protect him from seventy types of afflictions, the easiest of which is leprosy”².

Salt is the compound of two elements, sodium and chlorine, so it is known chemically as (sodium chloride), and its molecular formula is NaCl. Salt was known since ancient times, and the Greeks, Romans and Chinese used it in their religious rituals.

Salt is very necessary for good health, as it enters the composition of blood and fluids between cells inside the body so that a person can perform his functions in the natural (proper) way. Salt also plays an important functional role in maintaining the osmotic balance of fluids in the body. In addition to using it with food, whether it is in cooked food or others.

The human body contains about 125 grams of salt. An adult person needs about 3-5 grams of salt per day, and this amount may change depending on body size, weight, type of work and temperature.



¹ Al-Khisal P.623.

² Tib al-Imam Ali P.449 by Muhsin Aqeel.

-11-
Medicine

Medicine

Pharmacology

This science is concerned with the study of medicines from the structural and therapeutic aspects. It is a science that is particularly interested in studying the ways in which drug compounds interact with the body organs at the target sites inside the living body to cause effects in them by binding to their own receptors, or by inhibiting specific enzymes that work within the body. Pharmacology also includes the study of drug composition, properties, effects, toxicity, side effects, and diseases that can be treated.

Because of the tremendous scientific advancement, many branches of pharmacology were created, such as toxicology, the science of pharmaceutical industries, and others, all of which are devoted to the manufacture of medicine, knowledge of its structural components, and its therapeutic effects and others.

Drugs (Medicines)

Medicines are licensed drugs that an individual takes to treat or relieve symptoms of a disease or a medical condition. They are also chemicals produced by pharmaceutical companies to affect the functions of living organisms.

Medicines are manufactured from plant or animal sources or others, and thus they may have an unpalatable taste or smell, although the manufacture of most of them at the present time includes packaging them with an acceptable taste or smell. Or they may include mixing them with scented materials to gain acceptability when ingested by the patient. Whatever the case, the person must reluctantly tolerate that unpalatable taste of the drug

when using it, and not be averse from its taste or smell, and he must adhere to the method of taking it in terms of the dose and the time prescribed for taking it. And all this to achieve the desired goal of using the medicine, which is to achieve healing and enjoy perfect health. Here, the Imam's note about this aspect was obvious in his saying: "Whoever cannot bear the bitterness of the medicine, his pain will last"¹.

Medicines generally work in a specific manner, meaning that each drug has a specific site in the body that it is affected by it, and that the drug interacts with specific compounds that are also of its own and found on the surfaces of body cells or within those cells known as (receptors) Receptors and have the ability to affine chemically and interact with a drug.

And the relationship between the drug and its receptors is close and complex. The effect of the drug in showing its biological action in the body depends on the number of those receptors, their locations, the structural properties of each of them, and the extent to which they are affected by other substances that may bind to them.

And if some medicines are misused, they may affect the functional balance of the cells of the body, which leads to the occurrence of diseases that may be severe or fatal, thus turning the medicine into a toxic substance that can cause very bad consequences.

The concept of medicine has received great attention from Imam by saying: "Every living thing has a disease, and every illness has a cure"².

As for the Noble Prophet Muhammad, he encouraged medication by saying: "For every disease there is a cure"¹.

¹ Ghurar al-Hikam wa Durar al-Kalim P.483

² Tuhaf al-Uqool P.208

And “Treat yourself, because God did not send down a disease except that He sent down medicine with it, except for death, for there is no cure for it”².

In the words of the Prophet Muhammad and Imam Ali, there is a source of hope and a strengthening of the soul for both the doctor and the patient. The feeling of the presence of the drug is an incentive for the doctor to search for it in order to use it in the treatment of the patient, and this is also an incentive for the patient as it sends hope for wellbeing and healing in his heart.

The Commander of the Faithful described the phenomenon of dealing with medicines in a wonderful way when he said: “Having medicine for the body is like soap for a garment, it purifies it but it causes it to be worn”³.

To confirm that taking medicine cures the body from a specific disease, but he also talked about side effects that lead to the occurrence of other diseases.

If the food is natural and the diet is balanced and in harmony with the healthy nature of the body, then this will cause the person to stay away from taking medicines to a very large extent, so people should not resort to take medicines unless there is an actual need to do so, as the nature of the body is inclined to fix what is disrupted by its own, without the need for medications, due to the presence of the integrated vital system inside the body, and because of the presence of known defensive lines. But if there is a need to take medicine, which is something the doctor decides, then resorting to it becomes inevitable in order for the body to recover.

¹ Al-Tibb al-Nabawi P.17

² Da'em al-Islam book

³ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 P.396

On the other hand, the excessive use of medicines affects the healthy life of the individual and gives undesirable consequences. Also, the frequent use of drugs leads to disruption of the work of the receptors due to the competition of drugs to interact with those receptors, and then to the failure to achieve the desired goal of taking the drug.

In this regard, Imam Ali said: “Speech is like medicine, a little of it benefits, and a lot of it perishes”¹. Recent studies have confirmed that excessive drug abuse leads to what is known as Parkinson's disease.

On the contrary, it is sometimes true that taking some medicines in the form of vaccines leads to what is known as stimulating the occurrence of self-resistance towards the disease itself. The Imam personified this phenomenon by saying: “Perhaps a disease has turned into a medicine”².

There is another saying of the imam in which he expressed the two situations together: “Perhaps the medicine is a disease, and the disease is a medicine”³.

The relationship between medicine and food

There is an overlapping relationship between food and medicine, as medicines may be affected by the nutrients that an individual consumes, which may change the rate at which the body uses them. Calcium reduces the body's absorption of antibiotics, such as tetracycline, and orange juice destroys the value of penicillin; On the other hand, increasing the consumption of stimulant drinks

¹ Ghurar al-Hikam wa Durar al-Kalim P.483.

² Ghurar al-Hikam wa Durar al-Kalim P.483

³ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.16 P.97

such as tea and coffee increases the side effects of medications, such as the emergence of nervousness and insomnia associated with taking some medications¹.

The consumption of food may not solve all the health problems of the body, so it is necessary in this case to take advantage of medicines to restore health to the body.

The harmful interactions between medicine and food increase with age, due to the weakness of the metabolic activities of the elderly on the one hand, and because they are more addicted to medicines on the other hand.

In general, the combination of food and medicine is a double-edged sword. The drug may affect the body's ability to absorb food and its components such as vitamins, and food may affect the effectiveness of the drug. Therefore, doctors set dates for their patients to take medicines, such as before eating or after eating, according to the type of medicines and the nature of their work, in order to ensure the greatest possible benefit of the medicine.

General instruction for the use of drugs

Relying on the eloquent sayings and commandments of Imam Ali in the field of medicines and their relationship to the health of the individual on the one hand, and if we know that medicine is a double-edged sword that plays a positive or negative role in human health on the other hand, we can come up with the following commandments which are necessary for the use of medicines correctly:

1- The patient should use the medicine when he really needs it.

¹ Ta'amak Yuhadid Qawamak P.28

2- The medicine that the doctor prescribes to the patient should be taken.

3- Adherence to the time for taking the medicine, such as before or after food, for example, as well as adhering to the prescribed period for taking it. It is not permissible to interrupt the treatment without referring to the doctor's instructions.

4- Commitment to the prescribed dose of the drug, because small amounts of it may not be effective to eliminate the disease. Also, large quantities may be dangerous when ingested.

5- Commitment to the manner in which the medicine should be taken, such as liquids, tablets or medical injections.

6- Not to take the drug for a long time or to repeat it without consulting the physician.

7- Not to use a prescription by the patient belonging to another patient suffering from the same disease without referring to the doctor.

8- Verify the expiry date of the drug used to benefit from the effectiveness when taking it.

9- Adhere to the correct methods for storing or preserving medicines, in accordance to the instructions for each medicine.

Side effects of drugs

All medicines have side effects that can occur in the body, which are unintended effects of a treatment. The Commander of the Faithful mentioned this in his eloquent saying: “Perhaps a medicine brings disease.”

These effects are known by recognizing the symptoms caused by them. The incidence of side effects of the drug ranges from every ten thousand cases to ten cases, the latter being the most prevalent. In general, these symptoms may be general or specific.

General complications

These are a number of side effects that can occur when taking various medications. Among these symptoms, we mention, for example, thirst, dizziness, nausea, drowsiness, insomnia, headache, stomach pain, and others.

Allergy is a common drug complication that can occur when taking any drug depending on the sensitivity of the person taking the drug and the chemical components of that drug.

Special complications

They are side effects that arise from the use of certain drugs, so they belong to a particular drug substance or drug group. Such effects are often negative and dangerous for the patient. There are several types of special complications, including the following:

1- Complications related to the mechanism of the action of the drug:

These complications or symptoms are related to the quantities taken of the drug, and if they exceed the suggested dose, they will cause harmful effects to the patient. For example, taking medications of a type known as (beta blockers) leads to a decrease in the accelerated heartbeat, but taking larger quantities leads to a severe slowing of the heartbeat and then negatively affects the patient's life.

2- Complications of antibiotics:

In addition to the general side effects of antibiotics, such as allergies and indigestion, antibiotics may lead to the occurrence of other symptoms of their own.

3- Complications of chemotherapy:

It was noted that the complications of chemotherapy used in the treatment of many malignant diseases occur due to the effect on other non-cancerous cells. Among the well-known symptoms in this area are hair loss, diarrhea and skin diseases.

It was also noted that chemical treatments have toxic effects on nerves and nerve centers, which may cause nausea and vomiting.

4- Congenital malformations:

The symptoms associated with drugs affecting chromosomes (genes) or the development of a person as a fetus or during various stages of childhood are among the most dangerous side effects, as it has been observed that some drugs lead to birth defects. Perhaps the drug thalidomide, which was marketed in the period 1957-1961 in some European countries such as West Germany (formerly), was one of the most famous of these drugs that showed extremely dangerous side effects.

5- Cancer:

There are a number of drugs that affect the structural formation of genes inside the cells, increasing the chances of defects in those genes, and then increasing the chances of developing cancer, for example. Among these drugs, we mention immunosuppressive drugs, which can cause a weakness in the ability of the immune system.

Diet instead of medication

Diet may be a panacea for many diseases, as is the case in preventing diabetics from eating sugars and starches, people with high blood pressure from eating salt, or those who suffer from excessive obesity, and so on.

Among the most eloquent of what the Imam said, in this regard, was: “Health is not attained except by diet”¹.

And “He who isn't patient on the reluctance of sticking to a diet will prolong his illness”².

And “goodness of the body is diet”³.

Resting

Bed rest is also a medical treatment for some patients, especially those diseases that cause fatigue. In this regard, the Imam said: “Be patient with your disease as much as you can withstand it”⁴. So, as long as the disease is bearable, then you can do your work, but if that disease wears you out, then rest for it.



¹ Mustadrak al-Wasa'il V.16 P.453

² Ghurar al-Hikam wa Durar al-Kalim P.320

³ Ghurar al-Ilm fi Tanzim Ghurar al-Hikam P.169

⁴ Ghurar al-Hikam wa Durar al-Kalim P.484

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Immunity

Immunity

General Preface

Imam Ali said: “Your medicine is in you and you don't feel”¹, expressing the most important mechanism of maintaining the health of the body and regulating its vital functions, through what was mentioned in the two poetic verses ascribed to it:

Your medicine is in you and you do not feel.... and your disease is from you and you do not see.

You presume you are a small entity.... but within you is enfolded the entire universe.

Yes, they are among the most eloquent combinations of science and literature, medicine and wisdom... Two verses in which the Imam illustrated the ability of the Creator, Glory be to Him, to build the human body and manage its functions.

Nowadays, “your medicine is in you and how you feel” is expressed in what is known as immunity and the Immune system.

Immunity

It is the body's ability to resist the pathogens by the defensive cells and the antibodies. It is also known as immunizing the body against various diseases it is exposed to, and also as the body's latent ability to resist diseases. It is worth noting that each disease has its own immunity.

Immunology

As for the science that is concerned with this type of study, it is known as (immunology), and it is one of the important medical

¹ Diwan al-Imam Ali P.107

branches that deals with the study of all the functions of the immune system and its activities in cases of health and disease, and it is generally concerned with studying the mechanisms that enable the body to distinguish between what is subjective (part of the body) to preserve it and not part of the body to get rid of it.

The immune system

Modern medical studies have confirmed the validity of the Imam's statement that the body treats itself by means of the defensive lines in it, which work against foreign bodies which enters the body to prevent the occurrence of their pathological effects, and to provide health for it.

And if we take into account the defensive lines in the body, the immune system is the second line of defense, assuming that there is a primary line of defense represented by known sites in the body that play important roles in warding off dangers from the body and resisting foreign bodies that try to penetrate the body. The first line of defense consists of:

- 1- hair.
- 2- Skin and sweat.
- 3- saliva.
- 4- Tears.
- 5- Ear wax.
- 6- Stomach acidity.

All these lines act as natural barriers to protect the body from external influences, or protect it from what enters the body, such as germs, foreign bodies, and other things. These natural barriers can be divided into mechanical barriers, such as hair and skin, for

example, and chemical barriers, such as tears, saliva, nasal mucus, earwax, and gastric juice.

The second line of defense is what is known as the immune system, and it consists of the following elements:

1- Macrophages

They are cells capable of devouring foreign bodies such as bacteria and viruses.

2- Complements: They help the body to provide (adaptive) specific and (innate) non-specific immunity.

3- Lymphocytes:

They are mononuclear cells that are circulating in the blood and they kill foreign substances entering the body. They also prevent the growth of cancerous tumors by their high ability to destroy such cancerous (malignant) cells.

There are three types of lymphocytes:

A- Killer cells:

B - B cells: B- lymphocytes

C - T cells: T-lymphocytes

Thus, the immune system has become a true expression of the imam's concept of this topic.... Yes, dear reader, your medicine is in you and you aren't aware. There is a hidden pharmacists inside the body that prepares what the body needs of the ingredients to maintain its health and protect it from diseases.

Types of immunity

Immunity has two types; innate and adaptive.

A- The Innate immunity:

It is formed inside the body automatically without human intervention. This immunity may be qualitative, as it depends on the species, and it is formed against a specific disease in a particular animal without it being formed in another animal. There are some diseases that are not transmitted from animals to humans, as they are specific to the species, while there are other types that can be transmitted from animals to humans or from animals to other animals that differ in type.

The innate immunity is also hereditary, so it is passed down from one generation to the next. We find that individuals who have genetic immunity against certain diseases have inherited them from their ancestors.

B- Adaptive immunity:

This immunity may be ineffective, as is the case in congenital immunity, which is transmitted to the newborn through the mother's blood during fetal life, or through breastfeeding. Or the immunity might be as effective as that is acquired when the antigens enter the body, so that antibodies are formed within him to those foreign bodies, or when he is infected with some diseases.

The formed antibodies are known as immunoglobulins, and they are of five types:

- 1- Immunoglobulin E (IgE): (E).
- 2- Immunoglobulin (IgD): (D).
- 3- Immunoglobulin A (IgA): (A).
- 4- Immunoglobulin type (IgM): (M).
- 5- Immunoglobulin type (IgG): (G).

On the other hand, immunity can be divided into two other types as well: natural immunity and artificial immunity. The latter differs from the first in that it is formed inside the body as a result of vaccinating it with special vaccines or serums that are able to protect the body by introducing (attenuated) substances that cause disease in order to stimulate the body to build immunity through the formation of antibodies to those vaccines and serums. And the imam's wonderful saying: "Perhaps a disease turns into a medicine"¹ is still presented before us in this regard.



¹ Ghurar al-Hikam wa Durar al-Kalim P.484

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**Embryology in
Nahj al-Balaghah**

Embryology in Nahj al-Balaghah

A General preface

Nahj al-Balaghah is rich with wisdom, speeches and commandments that were and still are highly scientifically accurate about human creation and embryonic development. Imam Ali said: “Or look at man whom Allah has created in the dark wombs and layers of curtains from what was overflowing semen, then shapeless clot, then embryo, then suckling infant, then child and then fully grown-up young man. Then He gave him heart with memory, tongue to talk and eye to see with, in order that he may take lesson (from whatever is around him) and understand it and follow the admonition and abstain from evil”¹.

“O creature who has been equitably created and who has been nurtured and looked after in the darkness of wombs with multiple curtains. You were originated from the essence of clay (Qur'an, 23:12) and placed in a still place for a known length (Qur'an, 77:21-22) and an ordained time. You used to move in the womb of your mother as an embryo, neither responding to a call nor hearing any voice. Then you were taken out from your place of stay to a place you had not seen, and you were not acquainted with the means of acquiring its benefits. Who guided you to eke out your sustenance from the udder of your mother? And, when you were in need, who apprised you of the location of what you required or aimed at? Alas! Certainly, he who is unable to understand the qualities of a being with shape and limbs is the more unable to understand the qualities of the Creator and the more remote from appreciating Him through the limitations of creatures!”²

¹ Shah Nahj al-Balaghah P.128

² Nahj al-Balaghah P.264-265

The meanings of Imam Ali's sayings represented a clear echo of the Holy Qur'an, as they came in the clear verses of Surat Al-Tariq with the Almighty's saying: "So let man consider of what he is created: He is created of water pouring forth, Coming from between the back and the ribs"¹.

From Surah Az-Zumar: "He has created you from a single being, then made its mate of the same (kind), and He has made for you eight of the cattle in pairs. He creates you in the wombs of your mothers-- a creation after a creation-- in triple darkness"².

From Surah Mumunoon: "And certainly We created man of an extract of clay, Then We made him a small seed in a firm resting-place, Then We made the seed a clot, then We made the clot a lump of flesh, then We made (in) the lump of flesh bones, then We clothed the bones with flesh, then We caused it to grow into another creation, so blessed be Allah, the best of the creators"³.

From Sura Ghafir: "He it is Who created you from dust, then from a small life-germ, then from a clot, then He brings you forth as a child, then that you may attain your maturity, then that you may be old-- and of you there are some who are caused to die before-- and that you may reach an appointed term, and that you may understand"⁴.

From Sura al-Haj: "O people! if you are in doubt about the raising, then surely We created you from dust, then from a small seed, then from a clot, then from a lump of flesh, complete in make and incomplete, that We may make clear to you; and We cause what We please to stay in the wombs till an appointed time, then We bring you forth as babies, then that you may attain your maturity;

¹ Verses: 5-7

² Verse: 6

³ Verses: 12-14

⁴ Verse: 67

and of you is he who is caused to die, and of you is he who is brought back to the worst part of life, so that after having knowledge he does not know anything”¹.

It is known that man depends for his food on plants or animals, which in turn depend on plants, and thus all living things derive their food in one way or another from plants that originate in the earth and from the earth. The imam had derived this image from the inspiration of the Holy Qur’an.

Thus, the data of modern science confirmed the eloquent scientific hadiths of the Imam, as various studies indicated the mechanism of the formation of the fetus in a detailed manner and in the manner that became clear to everyone at the present time.

Embryology

After many centuries of the era of Imam Ali, there were many methodological scientific studies and researches that aimed at studying the fetus deeply since its formation until its full development. These studies and research collectively are called embryology. In view of the complexity of these studies, many sub-fields have emerged from embryology, based on specialization and the nature of the formation of living organisms bodies such as human embryology, animal embryology, plant embryology, functional embryology, tissue embryology and applied embryology. Embryology is also sometimes called evolutionary anatomy or developmental anatomy.

Embryonic development

At the end of the eighteenth-century AD, scientists and researchers realized the scientific implications of the formation of the fetus, which is that it does not consist of men's fluid only or women's

¹ Verse: 5

fluid only, but rather from the confluence of the two. The Noble Qur'an preceded them centuries before that, with its valuable medical signification, both of the Prophet's medicine and the medicine of Ahlulbayt.

The fetus is created, as was clearly indicated by Imam Ali, in the darkness of the womb and the coverage of the veils. Regarding the darkness of the womb, medical data confirmed that the fetus is found within three darknesses:

- 1- Abdominal darkness represented by the abdominal wall.
- 2- The darkness of the uterus.
- 3- The darkness of the placenta, also known as the darkness of the fetal membranes that surround it.

This eloquent statement was quoted from the Noble Qur'an, as it was mentioned in Surat Az-Zumar: "He creates you in the wombs of your mothers-- a creation after a creation-- in triple darkness"¹.

As for the coverage of the veils, it is the plural of the endocardium, which is originally means the covering of the heart, and here it came as a metaphor for the placenta².

Embryonic development stages

After the invention of medical and health technologies, many studies in genetics in the twentieth century confirmed the correctness of what the Imam said in his eloquent sayings in this field, that the fetus arises in the first place in the form of a fertilized egg known as a zygote, which is the result of the fusion

¹ Verse: 6

² Sharh Nahj al-Balaghah by Muhammad Abduh P.128

of the male gamete or what is known as the sperm (acrosome) with the female gamete or ovum.

Sperm

The Nutfah in the Arabic language means pure water regardless if it is abundant or rare, and the plural is sperms; and the water coming forth means its flow¹. The sperm is also called the gametes, and its plural is the gametes, and this was mentioned in Surat Al-Dahr from the Holy Qur'an: "Surely We have created man from a small life-germ uniting (itself)"².

Some consider the Nutfah to be a small amount of water that is equivalent to a drop or a few drops. It is said that a man oozes, meaning that water drips from him³. It is also said of the sperm that it is a little pure water, like that which remains in a vessel or mug. Whatever the case, the sperm is scientifically equivalent to the word (acrosome), and the sperms are the acrosomes.

As for the "A pure (overflowing) sperm", which was mentioned in the imam's saying, it means the successive sperms that are poured forcefully, so the overflowing means succession, and the word "Dahqa" means poured forcefully⁴.

Male gametes or male sperms (sperm) come from a series of cell divisions (filamentous and meiotic) that the spermatogenic cells of the testicle pass through. These carry half the original number of chromosomes.

There are two types of such sperms:

¹ Mukhtar al-Sihah P.666

² Verse: 2

³ Min Ayat al-E'jaz al-Ilmi: The creation of Man in the holy Quran P.351

⁴ Sharh Nahj al-Balaghah by Muhammad Abduh P.128

A- A male sperm responsible for the formation of the female sex of the fetus when it fuses with the egg, according to the following picture:

$$(x1 + x 22)$$

So, it is composed of 22 autosomal chromosomes and one sex chromosome of type (X).

B - A male sperm responsible for the formation of the male sex of the fetus after its fusion with the egg, and its formula is as follows:

$(Y1 + X 22)$, so it is composed of (22) autosomes and one sex chromosome of the type (Y).

As for the female gametes (eggs), they arise from the oocytes that are present in the ovary after a series of filamentous and meiotic cell divisions as well, which end with the formation of oocytes containing half of the original number of chromosomes as well. And all the eggs resulting from this division contain one chromosomal system:

$$(X1 + x 22)$$

It is composed of 22 autosomal chromosomes and one sex chromosome.

Fertilization

Fertilization occurs as a result of the fusion of the sperm (acrosome) with the egg according to specific timelines and after the availability of a number of natural conditions and specifications necessary for the occurrence of this phenomenon. Among these requirements, we mention the following:

1- The sperms (acrosomes) should be lively, healthy and sufficient in number in a single seminal flow.

2- The presence of sperm should coincide with the time of the ovulation of the egg from the ovary to the uterine canal, as it is ready to receive the sperm.

3- That the concentrations of (female) hormones are normal in a way that allows for the formation of eggs and their release from the ovary on the one hand, and preparing the uterus to receive the fetus formed on the other hand.

In order for the fertilization process to occur, the following must happen:

A- The phenomenon of capacitation has to occur, which is changes that prepare the sperm (acrosome) to fertilize the egg.

B - The occurrence of the acrosome reaction, and here the end cap of the acrosome secretes its own specific enzymes to enable it to penetrate the oocyte's garments or sheaths, which is the cumulus oophores, Zona pellucida, Corona radiata and radiant crown.

4- After the fusion of the components of the sperm (the male) with the components of the egg to form what is known as the fertilized egg or the zygote. When the sperm enters the egg, it prevents any other sperm from entering the egg due to the formation of a substance lining the egg membrane from the inside. If another sperm enters the egg, this does not lead to the formation of a normal embryo, but rather a mass of embryonic cells is formed that is thrown outside the body.

5- After fertilization takes place, the fertilized egg becomes active and begins dividing according to a system of numerical sequences into smaller cells to form a cell mass known as the morula. Then the blastocyst is formed, which begins with weeding or implantation in the uterine wall.

Fetal Sex

If a male sperm containing (22X1 + X) is fused with an egg, the fertilized egg will result in a female embryo, and the total number of chromosomes will be (22XX1 + XX) or (44X2 + X) i.e. (23XX) or (46X). But if a male sperm containing (22 X + Y1) chromosomes fused with an egg, the resulting embryo will be male and the number of chromosomes in it will be (44 XY1 + XX), which means that the fertilized egg contains 22 pairs of autosomes in the general form, (not in the size) each symbolizes (X), and one pair of sex chromosomes is differentiated in the general form and they are symbolized with (Y) and (X).

The Noble Prophet Muhammad clearly confirmed this in his saying: “The water (fluid) of the man is white and the water of the woman is yellow, so if they come together and the man's water get on top of the woman's water then the fetus is male, God willing, and if the woman's water is on top of the man's water, then the fetus is female, God willing”¹.

Genetic traits of the fetus

On the other hand, it came in Al-Manaqib book by Ibn Shahr Ashub: “A man asked the Commander of the Faithful, about the child, why sometimes he looks like his father and mother, and sometimes he looks like his uncle and uncle, and he said to Al-Hasan: Answer him. Al-Hassan said: As for children, when the man has sex with his wife calmly and with undisturbed organs, then the two sperms will be mixed up like the disputants, and if the man’s sperm became on top of the sperm of the woman, then the child will look like his father, and if the sperm of the woman became on top of the sperm of the man, then the child will look like his mother...”².

¹ Sahih Muslim V.1 P. 252

² Al-Manaqib by Ibn Shahr Ashob V.2 P.53

This is in complete harmony with the laws of the famous scientist Johannes Mendel (1822-1884) in genetics, which were announced after the Imam's saying by one thousand and four hundred years, that the dominant trait is the one that prevails over the recessive trait in the members of the new generation of births. After the development of research and study in genetics, it was found that chromosomes are responsible for the transfer of genetic traits, and that these chromosomes are composed of finer structures known as genes. At the end of the last century, the exact structures of these genes were known according to what is now known as the human genetic map.

The leech (a clot of congealed blood)

Let's continue talking about the embryonic formation of the human being, and we say: Two weeks after the beginning of the formation of the embryo while it is in the stage of the fertilized egg, that is after the completion of implantation, a new stage of the embryo is formed known as the leech (a clot of congealed blood), meaning that the embryo in this period looks like a leech, and the leech is a black worm that absorbs blood and is found in the bilge water. If an animal drinks it, it gets stuck in its throat¹.

The leech phase continues until the twenty-fourth day of the fetus's life. As for the “effaced leech” mentioned in the Imam’s saying, it is understood from it that the fetus is in an unclear state, it looks like an effaced leech.

¹ Mukhtar al-Sihah P.450

The lump

After the twenty-fourth day of the fetus's life, the leech (clot) begins to gradually change to become what is known as the lump stage, which is more like a piece of chewed meat¹.

The duration of the embryonic phase ranges between 26 and 42 days of the embryo's life².

And what comes after the (fetus lump)?

The divine ability continues the formation of the fetus until the completion of its organs and systems. It is noted that all body systems are created in the form of buds in the lump stage. Among the most prominent of what was mentioned in the noble Prophetic hadith is that the Messenger of God, Muhammad, said: "If the sperm passes forty-two nights, God sends an angel to it, who forms it, and creates its hearing, sight, skin and bones."

After nearly one thousand and three hundred years, medical books came to confirm the correctness of what the Holy Prophet said that the features of the fetus are formed after the sixth week of its life. Studies of human embryology have also proven that the face of the fetus does not show human characteristics until the forty-second day of its life³.

It has been mentioned in embryology books that the following occurs in the sixth week of the fetus's life⁴:

1- The formation of the sense organs.

¹ Mukhtar al-Sihah P.626

² Min Ayat al-Ejaz al-Elmi: The creation of Man in the holy Quran P.355

³ Min Ayat al-Ejaz al-Elmi: The creation of Man in the holy Quran P.356

⁴ the topic is adapted from the book "Medicine and Doctors in the Various Islamic Era" by Dr. Mahmoud Diab, p.104-105

2- The fibers of the muscle rings constantly gather until their gatherings are formed in each of the limbs, the chest, and around the eye to form what is known as flesh.

3- The formation of the outer and inner ear, and here is an indication of the formation of the sense of hearing.

4- The formation of pigments in the retina, the separation of the lens and the formation of the vitreous body, and thus vision is formed.

5- The beginning of cartilage formation (the formation of cartilage tissue), which grows into bones.

And this fetus, which was placed in a secure place until a known time, as indicated by Imam Ali, takes his role in the growth that continues for nine months, during which he moves in his mother's womb as the fetus does not speak and does not hear a call. Then he goes out from his seat (inside the womb) to the outside world, which is a new world for him that he has not witnessed before and he does not know the ways of its advantages, so he is guided to the breast of his mother by his innateness for nutrition, and that is the instinct of motherhood which is manifested by the mother to embrace her child and take care of him by providing safety and security for him.

The Imam begins describing the stages of the fetus's formation while he is in his mother's womb by saying: "He has made for you ears to preserve what is important, eyes to have sight in place of blindness and limbs which consist of many (smaller) parts, whose curves are in proportion with the molding of their shapes and lengths of their ages, and also bodies that are sustaining themselves

and hearts that are busy in search of their food, besides other big bounties, obliging bestowings and fortresses of safety”¹.

The most eloquent statement in this sermon is that he has prioritized the sense of hearing over the sense of sight, deriving that precedence from what came in the Noble Qur’an of the obvious verses. In Surat Al-Mu’minoon, the Almighty said: “Say: He it is Who brought you into being and made for you the ears and the eyes and the hearts: little is it that you give thanks”².

As for Surat Al-Isra, the Almighty said: “surely the hearing and the sight and the heart, all of these, shall be questioned about that”³.

And the Almighty said in Surah An-Nahl: “And Allah has brought you forth from the wombs of your mothers-- you did not know anything-- and He gave you hearing and sight and hearts that you may give thanks”⁴.

Modern science has proven the truth of this through the following observations⁵:

1- The sense of hearing is created long before the sense of sight. At the time when the fetus begins hearing in the fifth month of its life while it is still in its mother’s womb, it cannot distinguish between darkness and light until about two and a half months after birth.

2- The researchers also proved that the child learns by hearing long before he can read. The information obtained by the individual through hearing is more permanent in the memory than that information that is read or seen.

¹ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.6 P.25

² Verse: 78

³ Verse: 36

⁴ Verse: 78

⁵ Min Ayat al-Ejaz al-Elmi- the creation of Man in the holy Quran: P.534 and Sadler P.317 and P.325

In the seventh week of the fetus's life, the final formation of its various organs begins. The fetus also begins to grow rapidly, as its length turns from 30 millimeters in the seventh week to about ten centimeters at the end of the thirteenth week (the end of the third month).

The Commander of the Faithful described the body as pieces that gather its organs, and fit their parts... What is meant here by body parts is the visible parts of the body, such as muscles and skin, which join the internal organs in a precise and tight manner in order to preserve them from external harm such as bruises and wounds and the like, as well as to enable the internal organs to perform their functions to the fullest.

And in synergy between the muscles, bones and nerves, what is known as the locomotor system is formed, which enables the body to perform movements freely and to bend easily in various directions.

Thus, Imam Ali illustrated the relationship between the structure and function of the various organs of the human body, and by this he referred to the greatness of the structure of the body and the specialization of its organs to perform their specific functions, a matter that cannot be underestimated. The Imam addresses the human being by saying:

You consider yourself to be a speck, but within you the great universe has spread open¹.

Whoever contemplates the accuracy of the synergy between the body's organs to perform its vital functions to the fullest, he stands humbled and amazed before the greatness of the divine miracle in which it is impossible for researchers and scientists to probe all its

¹ Diwan of Imam Ali P.107

depths... Rather, they are still searching and striving to know more about the nature of the body and how to perform its functions according to the outlined mechanisms.

It was noted that the body consists of a specific internal environment that includes different components such as water, fluids, gases, elements, salts, vitamins, enzymes, and others, in very precise and limited quantities, affecting each other. If the components deviate from their known levels, it will lead to an imbalance in the vital functions of the body. Therefore, the disease is defined as an imbalance in the stability of the internal body environment "homeostasis".

On the other hand, some wit writers and researchers describe the human body as a hierarchical body in order to facilitate the study of its components. Some see it similar to the state.

The state is composed of ministries (sovereign and service), and the human body is composed of various systems.

Every ministry is composed of general departments, and in contrast, every system of the body is composed of organs. Just as the general department consists of secondary departments (divisions and offices), every organ in the body is composed of tissues.

Each department or division consists of a number of employees (whether few or many), a single tissue also consists of cells.

Since the single employee forms the building block in the administrative structure of the state, the living cell is the building block of the living organism in both functional and structural terms.

The human body can also be compared to the whole universe. The latter consists of galaxies which is similar to the composition of the

living body of systems. Each galaxy consists of solar groups, and each group consists of planets, and the planets have moons attached to them, and our planet is made of continents, and the continent is made of countries, and each country is made of administrative units that progress in formation from large and smaller cities to reach the areas and branches that are similar to the cell in building the body of the living organism.

They are beautiful and reasonable analogies to some extent, but they do not rise to the greatness of the formation of the human body, since the human being has the supreme value among all these beings. It was stated in the decisive verse: "Certainly We created man in the best make"¹.

Yes, O human being... You are, as the master of rhetoricians said about you, you are not a small speck, but you are a being who represents the summit of the divine miracle, and therefore, the greater world is included in you.



¹ Sura At-tin Verse: 4

-14-
Senility

Senility

A general preface:

The Commander of the Faithful said: “Whoever reaches seventy complains without an illness”¹.

And: “He who is missed by the arrow of death will be chained by old age”².

And in his sermon known as al-Gharra’ sermon, he said: “Are these people who are in youth waiting for the back bending old age, and those enjoying fresh health waiting for ailments, and these living persons looking for the hour of death? When the hour of departure will be close and the journey at hand”³.

In that saying, the Imam referred to the close relationship between the efficiency of bodily organs and the progression of age. After those bygone centuries, recent studies came to confirm the correctness of what the Imam said, so they revealed the existence of clear relationships between human life and the efficiency of the work of his various bodily systems. Thus, we must know that there is no immortal being at all, for everything is ephemeral, and only the Face of God Almighty, who is majestic and honorable, remains. Despite all this, a long life accompanied by a healthy and sound body remains a blessing from God Almighty, as the Imam says: “There is no blessing in this world greater than long life and the health of the body”⁴.

Senility: old age

¹ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 P.412

² Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 P.380

³ Sharh Nahj al-Balaghah by Muhammad Abduh P.125

⁴ Sharh Nahj al-Balaghah V.20 Hadith: 905

Aging, or what is known as senility, is the progression in age that living organisms in general, including humans, go through as a result of their growth. Aging can also be defined as an imbalance or damage in the system of vital processes occurring within the body of the organism, or an imbalance in the principle of stability of the internal environment of the body (homeostasis).

Aging is a natural functional phenomenon that a person must pass through his life. Aging may be accompanied by dementia. Hence, aging is a phase of life that disturbs the person who is passing through it, whether he knows it or not, and thus it disturbs him.

Old age has been mentioned in the Holy Qur'an as the most despicable age, in the Almighty's saying in Surat An-Nahl: "and of you is he who is brought back to the worst part of life"¹, and in Surat Ghafir: "then He brings you forth as a child, then that you may attain your maturity, then that you may be old"².

A man who is going through the stage of old age is known as (the sheikh) in Arabic, then the woman who is going through this stage of life is known as (Ajooz) in Arabic. This was made clear in Surah Hud from the Holy Qur'an: "She said: O wonder! shall I bear a son when I am an extremely old woman and this my husband an extremely old man?"³.

Gerontology

It is a science that studies the phenomenon of aging from various health, social and psychological aspects. Geriatrics is a branch of medical science that studies the health of the elderly and treats common diseases among them. This science was one of the

¹ Verse: 70

² Verse: 72

³ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 P.412

branches of internal medicine in the past, then it became a science in its own right, just like other medical sciences.

Causes of aging

There are many theories which tries to explain the causes of aging, but all of them are still not conclusively defined so far. It is worth noting that the familiar pathogens have nothing to do with aging, although they contribute from near or far to the early entry into this stage of life.

Some scientists and researchers believe that the imbalance in the hormonal levels inside the body is one of the causes of aging.

Among those scientists and researchers are those who attribute aging to a weakness in the immune system, caused by a lack of production of the bodies known as T-cells, and this may result from the significant atrophy that affects the thymus gland at age, and we know that this gland is responsible for the production of this type of immune system cells in the body.

It is also believed that the increased presence of free radicals, in a way that is difficult for antioxidants to get rid of, damages body cells, and this phenomenon may increase with age.

Some attribute the emergence of aging to the occurrence of a certain biological phenomenon that occurs in the chromosomal structure, which is when the terminal piece called the telomere located at the end of the chromosome, which is composed of a repetitive series of nitrogenous bases, loses part of those nitrogen bases to the extent that this terminal piece is completely lost after a rate that falls between 60 and 100 cell divisions which lead to cell death. It is understood that cells lose their ability to divide over time, and it is worth noting that the telomere is constructed by the

action of an enzyme known as telomerase, which in turn consists of RNA and protein. And that this enzyme is not activated in normal conditions, so its presence and effectiveness in cases of tumors are related to uncontrolled cell divisions of cancer cells, and this is another topic that is not related to the subject of our study now.

Symptoms of aging

Symptoms of aging occur mostly between 65 and 70 years of age and this varies from one place to place according to environmental, social and psychological conditions, level of learning and others. It also differs between males and females. The old age also depends on the average age in general.

There are some changes that occur in both phenotypic traits and functional efficiency throughout the body in the aging stage, but we will refer to the most important organs affected by aging, which are as follows:

Firstly, the heart:

The heart functions begin to decline with age, as the latter leads to a decrease in the ability of the heart to diastole and systole, and then to a decrease in its ability to pump blood.

When the amount of blood pumped by the heart per minute decreases, the systolic blood pressure tends to rise. In addition to the foregoing, there are general problems that occur to the heart and circulatory system with age, including the following¹:

1- Arteriosclerosis due to the accumulation of fats and cholesterol in them.

¹ Edwards et al (2002)

2- Difficulty in the work of the heart due to the lack of blood supply.

3- The occurrence of angina pectoris.

4- Heart failure in the elderly, especially those over the age of seventy-five. This heart failure occurs ten times more in the elderly than in the younger ones.

5- The occurrence of the irregular heartbeat.

Secondly, the lungs:

It was observed that the lung function decreases with age. Recent studies have shown that changes in lung function due to age can be distinguished from those that occur as a result of diseases which humans might have.

With age, there are obvious structural changes in the respiratory system. For example: the shape of the rib cage changes, becoming more circular, the cartilage between the ribs is calcified, the size of the large bronchi increases, while the internal diameter of the bronchi decreases after the age of forty.

The researcher Yoshinosuke Fukushchi from Japan noted in 2009 that the surface area of the alveoli decreases by up to 15% when a person reaches the age of seventy, and thus the efficiency of gas exchange in the lungs decreases¹.

Thirdly, the brain:

The changes that occur in the brain during aging can be summarized as follows:

1- Memory loss.

¹ Fukuchi, Y. (2009), 570-582

- 2- Loss of neural circuits.
- 3- Loss of brain flexibility.
- 4- Thinness of the cerebral cortex.

Advanced techniques in magnetic resonance imaging (MRI) machines have shown the structure of the brain in the smallest detail. The scientist Bartzukis and his group observed a decrease in the volume of gray matter between puberty and the later years of human life; While it was noted that the volume of white matter increases between (19-40) years, and then begins to decline after that, with age.

Those were structural changes. As for the chemical changes, they are embodied by changes in chemical messengers known as neurotransmitters, such as dopamine, serotonin, and glutamate. Both (Hof) and (Mobbs) reported in 2009 that the brains of centenarians showed a decrease in dopamine synthesis¹.

Prior to that (1984), the researcher (Dong) and his group noticed a decrease in the amounts of serotonin transporters and receptors with the advancing age of the human being. Perhaps the most common diseases of the elderly, related to brain functions, are Alzheimer's disease, Parkinson's disease and cerebrovascular disease.

In the field of maintaining brain health of the elderly, scientists are now urging them to practice some simple arithmetic operations in order to stimulate neurons to increase their branches, which leads to improving the efficiency of their nervous system.

Fourthly: Kidneys:

¹ Hof and Mobbs (2009).

The kidneys play an important functional role in controlling the chemical balance in the body. Like other bodily organs, its function may decrease to some extent with age.

In general, the decline in the function of the kidneys during old age can be summarized by the following events:

1- Decrease in the number of nephrons, which are the filtering units of the kidneys which are responsible for filtering waste products from the blood.

2- The decline of the renal tissue in general, but the loss of the weight of the kidney may affect the cortex of the kidney more than the core, with the appearance of a noticeable thinness in the parenchymal tissue of the aforementioned cortex. It is believed that this is due to vascular changes.

3- The blood vessels supplied by the kidneys become more solid, which leads to a slowdown in the blood filtration processes.

In general, renal function is normal in elderly individuals, although it is slower than in younger people.

(Zhou), (Laszek) and (Silva) indicated in 2008 that the average weight of the kidney increases from birth until the age of (40-50) years, and then begins to decrease about 20-30% of its weight in the seventh and eighth decades of age¹.

Fifthly, Other symptoms:

In addition to that, there are other symptoms that appear in the aging stage, including:

1- Decreased posture erection.

2- Wrinkle of the skin.

¹ Zhou et al, (2008).

- 3- Hair loss and its discoloration.
- 4- Weakness of the senses of hearing, sight and smell.
- 5- Weak sexual drive.
- 6- Weakened immune system.

Is there a more obvious and more accurate expression than the expression of Imam Ali in illustrating the relationship between aging (old age) and the public health of the individual when he said that a person complains without a disease when he reaches the age of seventy? This means that he complains about the inefficiency of his bodily systems without direct practical reasons for the occurrence of diseases.

And when he said: whoever is missed by the arrow of death, he will undoubtedly be constrained by the old age, which means that the general functional performance of his various bodily systems will be limited and restricted.

And that the death of man is an inevitable end, as old age must lead to death, and the people of the young must go through the stage of aging in their later life, and that the living people wait nothing but the time of annihilation.

Menopause of women

When we talk about aging, it is necessary to refer to the phenomenon of women going through menopause, and this duration serves as the initial warning bell that suggests old age, as many physical and psychological changes occur through it, perhaps the most important of which is the decrease in the efficiency of the reproductive system with regard to procreation and the end of the menstrual period. Also, at this stage upwards, the gradual decrease in the production of estrogen begins, which

leads to a loss of skin elasticity and the occurrence of what is known as osteoporosis.



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Senses

Senses

Imam Ali said about the senses: “Be amazed at man who sees using a piece of fat, talks using a piece of meat, hears using a piece of bone, and breathes through a hole”¹.

When studying these organs, at the present time, we find the accuracy of what the Imam mentioned of a wonderful scientific description of them, in his time, illustrating the structure and function of each of them, a description that is very clear and simple, and demonstrating the divine miracle in how these senses perform their functions.

First: The sense of sight and its organ the eye

The eye is responsible for the implementation of the mechanisms of vision, as is known to all; However, the imam had summed it all up with the phrase that a person sees with fat, which is a really eloquent expression with which he wanted to impress people by addressing them: Be amazed of this work... How can a piece of fat be responsible for vision?

The sense of sight is one of the most sublime senses, and it is the most subtle. The Greeks were aware of this until they reached the point that they said that losing an eye is a loss of life.

Eye composition

The eye is a very complex spherical structure with a diameter of about three centimeters. As for its weight, it is about eight grams, and it moves in various directions by six special muscles for this purpose.

The eye is located inside a special cavity called the orbit of the eye, in the frontal bone in the front of the head. And a fat cavity

¹ Nahj al-Balaghah: p. 489

surrounding it, meaning inside this cavity there is fat that surrounds the eyeball. And when this fat melts when sick, for example, the eyes become sunken inside the orbit.

The eyeball consists of three layers:

A - The cornea:

It is a hard layer located on the outside of the eyeball, and its front part appears transparent, and this part is also known as the white of the eye.

b – The choroid:

It is located in the center, and it is composed of a black pigment rich in blood vessels. This layer extends near the back edge of the cornea, forming what is known as the iris. In the middle of the iris there is a round hole, the pupil, whose diameter varies according to the intensity of the light (2-8 mm).

C - The retina:

It covers the eyeball from the inside, and it is made of the small ends of the optic nerve branches.

Sight mechanism

We pointed out that the eye is a photosynthetic organ which means that it responds to only one stimulus, which is light. The light rays from a certain body fall on the eye and pass through the cornea, then into the anterior chamber, and then into the crystalline lens and the vitreous fluid. All of these structures work to refract the rays and collect them on the retina because the latter contains very precise sensory cells.

When the rays are refracted on the retina, the visible body forms a real, miniature, but inverted image, which is transmitted to the

brain in the form of nerve impulses, where they are distinguished there.

The research of scientists (Wold), (Hartline) and (Granit), recipients of the Nobel Prize in Medicine and Physiology in 1967, led to a better understanding of the mechanism of vision, as they indicated that optical molecules stimulate retinal cells to receive light; These cells consist of two types: rod cells known as the rods, which are nearly 130 million rods and are responsible for receiving gray light, and cone cells called cones, which number seven million and are responsible for receiving colored light.

The retina, with its rods and cones, becomes the scene of successive physical and chemical events, and it represents a real chain of reactions. When light hits these cells, an electric current is generated, and it is transmitted to the occipital lobe from the posterior region of the brain¹.

The imam indicated that man speaks with flesh, and what is meant here by flesh is the tongue. And the expression of the tongue is a synonymous of what is in Arabic language for speech or pronunciation, so it is said that the tongue is eloquent, i.e. eloquent speech, and from that came the strong connection between the tongue and speech. The tongue is a singular term used to refer to the organ sometimes the Tongue, and to language, or to phonetics and pronunciation at other times.

Tongue composition

It is a muscular organ located in the mouth. It consists of seventeen muscles, all of them are of the striated muscle type, and they are covered with a rubber membrane. The tongue fibers are arranged

¹ Know your body P.36

in bundles that overlap with each other to move in various directions.

The tongue is supplied with blood vessels and nerves.

Tongue functions

The tongue has several functions, including the following:

- 1- It has an important role of the pronunciation process.
- 2- It helps to move food in the mouth for chewing.
- 3- Helps with feeling pain and heat and touch.
- 4- It plays an important role as an organ of taste.

Second: Speech and taste, and their organ is the tongue

The tongue's sense of taste:

As for taste, the tongue consists of three types of papillae: filamentous, truncated, and sepals. Each of these papillae contains a number of taste buds composed in turn of long ciliated cells from which sensory fibers extend towards the brain.

There are four types of taste buds, each of which is responsible for tasting a taste of the common baits:

A- Sweetness buds: They are located at the front of the tongue, and they are responsible for tasting sweetness.

B - gallbladder buds: They are located at the back of the tongue, and they are specialized in tasting the bitter.

C - Salinity buds: They are located on both sides of the front of the tongue, and are responsible for tasting the saltiness.

D - Acidity buds: They are responsible for tasting sourness, and they are located on the sides of the tongue and back from the salinity buds.

Third: The sense of hearing and its organ of the ear

As for “hearing with a bone,” it is a wonderful rhetorical expression about the ear that Imam Ali said at his time so those who came after him, hundreds of years ago, can confirm that the bones of the ear play a major role in performing the function of hearing.

Ear composition

The ear is made up of three main parts:

1- The outer ear:

It consists of a cartilaginous part called the pinna, the external auditory canal known as the meatus, and the tympanic membrane that separates it from the middle ear. The outer ear is responsible for transmitting sound waves.

2- The middle ear:

It consists of the tympanic cavity, which is connected to the nasal part of the pharynx by the Eustachian tube. In this cavity there are three bones, the hammer, the incus, and the stirrup, which are responsible for transmitting sound vibrations from the tympanic membrane to the fluid in the cochlea. The function of these bones is to work together, in perfect synergy, to modify the small air pressure differences distributed over the large area of the tympanic membrane to the large pressure differences over a small area at the base of the stapes bone.

3- Inner ear:

It is a complex group of channels, chambers and cavities. Most of the ear cavities are in the form of tubes consisting of two main sections, the cochlea and the semicircular canals. The cochlea is a tube coiled spirally around a central column, similar in general

shape to the shape of the cochlea, and it is the part of the inner ear responsible for hearing. The semicircular ducts are three ducts located in three approximately orthogonal planes and are filled with lymphatic fluid.

Hearing mechanism

The sound is transmitted to the ear in the form of sound waves through the air, as the pinna collects the waves, focuses them and delivers them to the tympanic membrane, which is affected by this, and it vibrates vibrations transmitted by the aforementioned ear bones (the hammer, anvil and stirrup),

At this time, the lymphatic fluid that delivers sound to the tendons known as the tendons of Corti (in the inner ear) vibrates and from there to the receiving organs, which in turn send nerve impulses through the auditory nerve to the auditory center in the brain, where the sound is perceived and distinguished.

More clearly, if we look at the stirrup bone, which is the third bone of the middle ear, as we mentioned earlier, we find in front of it a membrane covering an oval window that is the boundary between the middle and inner ears. The membrane of the oval window repeats the oscillation that occurred in the tympanic membrane, and it passes through the inner ear through a fluid in which sound waves travel until they reach the cochlea, and from this there is a small channel through which the waves pass to the hearing nerve, which transmits them in the form of electrical signals to the brain.

In 1962, A Hungarian scientist Dr. Von Bekessi was awarded the Nobel Prize in Medicine for his research on the cochlea. Bekessi discovered that the spiral duct of the cochlea contains a membrane

that has the length, and it is responsible for transmitting sound waves¹.

It is worth noting that the presence of two ears for a human being was not just for phenotypic coherence, but rather it is of great importance for distinguishing the sound source. The sound that arrives from one side of the ear which is on the side of the sound source is a little faster than it reaches the other ear (on the other side). Thus, the brain can distinguish between the slight differences in the intensity and accuracy of the sound and determine its source. It seems that each ear adds its response to the response of the other ear, and thus the sound heard with both ears appears to be louder than if it were heard with one ear².

The ear and the mechanism of maintaining the balance of the body

The semicircular canals of the inner ear perform the function of maintaining the body's balance because of the lymphatic fluid present in the canals, on one hand, and the sensory cells in the bulges at the bases of the semicircular canals, on the other hand; These bulges are one bulge for every single channel which is near its end.

The sensory cells of the ear are affected by the movement of the lymphatic fluid, so if the head or the body tilts in the direction of what moves the lymphatic fluid in the relevant channel to affect these sensory cells, nerve impulses are formed and they are transmitted through the auditory nerve to the center of balance located in the cerebellum to perceive it, and issue commands to the

¹ Jismak wa Asrar Hayatak P.33

² Asasyyat Amma fi Ilm al-Physiology P.581

muscles of the body, in order to adjust the position of the body and restore its balance¹.

Fourth: Breath and smell, and their part is the nose

“He breathes from a hole,” Imam Ali said, that a person breathes from a hole, and the hole is the small opening that is known, for humans, as the nostril, which is the main entrance for air to enter and exit the lungs, when breathing.

The nose composition

It is a special organ located between the eyes, and it protrudes in the front of the face. It consists of a cavity known as the nasal cavity, which consists of two channels connected to the outside by two openings known as the external nostrils. Each opening leads to a nasal cavity.

Each nasal cavity leads to the pharynx by the inner nostril.

Nose functions

The nose has important functions:

- 1- It is a sense of smell through its ability to pick up the smells of various substances and send them to the brain by its own nerves in order to interpret them.
- 2- It works to deliver air to the lungs as a main entrance for the air coming from outside the body to the lungs.
- 3- Working to moisten the air entering the body due to the mucous fluid secreted by the nasal cavity.

¹ The subject is adapted from the book “General Fundamentals of Physiology” by Dr. Rushdi Fattouh Abdel Fattah, second edition, (1988).

4- Protecting the respiratory system from dust, microbes and other substances that may enter through the nose, due to the presence of bristles and mucus in the nose.

The nose and the sense of smell

The upper fourth passage, located at the top of the nasal cavity, performs the function of smell. It is lined with a membrane known as the olfactory membrane. The latter consists of two types of cells namely; Sensory cells which are the olfactory receptors, and supportive or supportive cells which function is to support the sensory cells. The latter are spindle-shaped bipolar neurons.



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Prayer

Prayer

Foreword

The two obligations of prayer and fasting were among the most important things referred to by specialists in the history of medicine in general and the history of Islamic medicine in particular. This is because they are related to the public health of the individual, as they aim, as indicated by Dr. San Giorgio Darilano in his book “The History of Medicine” issued in 1936, to achieve two goals and achieve two purposes at the same time. A religious purpose and a health-related one. In addition to being a religious obligation that a Muslim must perform, they also contribute to providing the best health for the human being.

This chapter will be devoted to talking about prayer, while the next chapter will be devoted to fasting.

Prayer

Imam Ali said: “Fear God! Fear God! in prayer, for it is the pillar of your religion”¹.

And: “Take care of the matter of prayer, preserve it, increase doing it, and seek nearness (to Allah) by it, for it is a timed ordinance for the believers...”².

As is the case in his previous statements, the Imam derived his statements about prayer from the inspiration of the Holy Qur’an and from the hadiths of the Messenger. It came in Sura al-Ankaboot: (and establish regular Prayer: for Prayer restrains from

¹ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.3 P.77

² Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.2 P.178

shameful and unjust deeds)¹, and in Sura al-Mumenoon: (Successful indeed are the believers, Who are humble in their prayers)².

The Imam emphasizes the importance of prayer as a fundamental pillar of the Islamic religion and he emphasized, as Darilano pointed out, that the prayer achieves two goals, the first is religious and the other is healthy.

Ablution

Before talking about prayer, it is necessary to refer to ablution and purity, even briefly. Almighty God said in his glorious book clearly: (O ye who believe! when ye prepare for prayer, wash your faces, and your hands (and arms) to the elbows; Rub your heads (with water); and (wash) your feet to the ankles. If ye are in a state of ceremonial impurity, bathe your whole body)³.

Ablution, which is the mechanism of preparation for prayer, requires the Muslim to do the following:

- 1- Washing the face, hands and feet, and this is repeated according to the times of prayer.
- 2- Washing the mouth, which leads to its cleanliness, the cleanliness of the gums and teeth, and its protection from diseases.
- 3- Washing the nose as often as the ablution is useful for preventing colds.
- 4- Purification, which means the cleanliness of the body after urination, defecation and semen.

Also, prayer requires the cleanliness of clothes.

¹ Verse: 45

² Verses: 1-2

³ Sura al-Maeda Verse: 6

It is useful for man to clean his visible bodily organs since we knew that hygiene keeps away many diseases from humans such as influenza, tonsillitis, conjunctivitis and skin diseases. It also eliminates many types of bacteria that are found in the mouth and nose, which infect humans with respiratory diseases, pneumonia, sinuses, and others. And then the Muslim has embodied the hadith of the Noble Prophet who said: “Clean up, for Islam is clean”.

The general benefits of prayer

The prayer has general benefits, including the following:

1 - Belief in God:

The prayer increases a person’s faith in his Lord and in the ideal spiritual values in life, making him a good individual in society, as it creates in him a number of good qualities such as honesty, trustworthiness, justice, safety and respect for people’s rights and freedoms. Prayer forbids indecency and wrongdoing.

2- Psychological stability:

The prayer provides a state of psychological calm, as the individual becomes far from the preoccupations of life and the stress that these concerns generate. Reverence for God generates a special state of faith that leads to great psychological stability and makes the individual a sound member of the society, and psychological calmness provides him with better physical health.

3- Respect for time:

Establishing prayer on time is an important element of man’s time management, and his respect for time in carrying out his work, and then this leads him to respect other appointments and to complete work on its specified time. Respecting time often leads to a better community building.

4- Social Intimacy:

As for group prayer, in particular, it achieves intimacy between people through their meeting to perform this duty. Meeting other people and talking to each other when performing the obligatory prayer leads to the strengthening of social bonds through that acquaintance that serves the community and works to advance it.

5- Develop a sense of responsibility:

Prayer leads to the development of a sense of self-responsibility, as the performance of this duty without supervision but God Almighty creates in the individual a special sense of responsibility that leads him to take his other responsibilities seriously which are related to other people in society.

Health benefits of prayer

Scholar Rene Sand pointed out in his book “Towards Social Medicine” that: “The religious teachings of Islam improve health since they invite people to contentment by avoiding eating and drinking too much, hygiene, washing with clean water five times a day before every prayer”¹.

And Sand said: “Prayer is a set of physical movements.” Then he concludes by saying:

“And Islamic knowledges devoted a large portion of their researches to preserve health”².

As for the French physician, Alexis Carrell (1873-1944), who won the Nobel Prize for Medicine and Physiology in 1912, he said:

¹ Tarikh al-Tib wa Adabuh Wa Ulama’uh by al-Shetti P.157

² Previous source.

Prayer causes an important activity in the body's systems and it is the greatest generator of bodily activity known so far¹.

We will review this from two main points of view:

A- Health benefits before prayer:

It is achieved through ablution and purity, and this was clearly discussed before.

B - Health benefits during prayer:

Prayer itself has many health benefits, including the following:

- 1- It is a good way to get rid of psychological tension.
- 2- It stimulates blood circulation.
- 3- It prevents varicose veins.
- 4- It protects against osteoporosis in the later age.
- 5- Achieve a better physical fitness of the body.
- 6- It works to strengthen the muscles of the spine and prevent herniated disc.
- 7- Improves the ventilation of the lungs.
- 8- It strengthens the secretion of the gallbladder.
- 9- It benefits pregnant women a lot.
- 10- If we take the belt-low bowing (Ruku') precisely, we find that it benefits the muscles of the abdominal walls and helps the stomach to contract and then perform its digestive function.

¹ Al-Insan Thalik al-Majhool.

11- As for prostration, it is beneficial for the air rushing from the abdomen to the mouth, relieving it from the stress of stretching. Long prostration is beneficial for who suffers from the flu and cold, and it prevents the catarrh from descending to the throat. Also, prostration benefits the head, as the brain needs to increase the blood circulation that passes through it, and this is achieved when prostrating, which increases the flow of blood to it.

Prayer times and hormonal levels

It seems that there is a functional relationship between prayer times and hormonal levels in the body, which is as follows:

First, the morning prayer

The Muslim wakes up at dawn and he is on a date with three functional transformations:

A- Preparing to receive light on time, which reduces the activity of the pineal gland located in the brain, so its hormone known as melatonin decreases to activate other vital processes related to light, and the serotonin hormone rises in the blood.

B - The end of the sedative parasympathetic nervous system control at night and the start of the work of the activated sympathetic nervous system during the day.

C - The body's readiness to use the energy provided by the rise in cortisone, the hormone secreted by the adrenal cortex, in the morning. The level of endorphins in the body also increases.

Second: The Zuhr and Asr prayers

At noon, the worshiper will be on a date with three important interactions as well:

A- The rise of the hormone adrenaline at the end at noon, so the prayer works to calm the person after that hormonal rise.

B - The testosterone hormone in men reaches its peak at noon, so the prayer will help to calm the person.

C - At the end of the morning, the body becomes in need of an additional supply of energy that necessarily comes from eating a quick meal (lunch), so prayer is an important factor to calm the tension caused by hunger.

Third: The Maghrib and Isha prayers

They take place at the time of the natural transition from light to dark, and the opposite of what happens in functional shifts occurs during the day. Among these transformations are the following:

A- An increase in melatonin secretion due to darkness, which leads to a feeling of laziness and drowsiness.

B - Decreased levels of cortisone, serotonin and endorphins.

C - Dominance of the parasympathetic nervous system instead of the control of the sympathetic system.

From here, it becomes clear to what extent the secretion of hormones and the times of the vital (functional) activity of the body coincide with the times of prayer.

And performing the prayer at its specified times and in a monotonous manner is considered as influential conditional nervous reflexes with the passage of time, so that each prayer in itself can become a signal for the start of biological processes in the body.

Hormones

It is worth noting that hormones are chemical compounds that are secreted by non-ductal glands known as endocrine glands, and they move through the bloodstream to different parts of the body. The endocrine glands found in the human body¹ are:

1 - Pituitary gland:

It is located on the ventral surface of the base of the brain, and has a weight of about 6.0 g. As for its size, it is slightly larger than the size of a chickpea. This gland secretes multiple hormones such as growth hormone, prolactin (known as relief hormone or lactation), adrenocorticotropic hormone (ACTH), thyroid-stimulating hormone (TSH), and gonadotropin-stimulating hormones (testes and ovaries) such as follicle-stimulating hormone (FSH) and luteinizing hormone (LH).

2- Thyroid gland:

It is located in front of the trachea and at the bottom of the larynx; It weighs about 30 grams, and it has the size of a large peach. The thyroid gland secretes thyroxine and triiodothyronine.

3- Parathyroid glands:

They are four very small bodies located next to the thyroid gland, which secrete the parathyroid hormone responsible for calcium metabolism in the body.

4 - Adrenal glands:

Each one of them is located on top of one of the kidneys, and they weigh about six grams. Each gland consists of two external sections known as the cortex, which are responsible for the secretion of cortisone, aldosterone and some sex hormones; and an

¹ for more information on this, you can refer to the book “Endocrine glands and hormones” by the author (it is being printed)

inner section known as the pulp that secretes adrenaline and noradrenaline.

5- Pineal gland:

It is a conical gland located in the dorsal surface of the brain. It weighs about 5.0 grams, and its size is the size of a grain of rice. This gland secretes the hormone melatonin.

6 - Thymus gland:

It is located above the heart, in the area where the main arteries exit from it, and it weighs about 30 grams before puberty. The thymus secretes the hormone thymosin.

7 - Islets of Langerhans:

They are endocrine cells found scattered throughout the pancreas, making up about 1% of the weight of the pancreas, and they secrete the hormone insulin and glucagon, which are responsible for maintaining the level of sugar in the body constant under the normal level.

8 - The gonads (testes and ovaries):

A- The testicles:

They are two symmetrical oval glandular organs located in the scrotum and they release two types of secretions, one of which is external (through its own ducts), which is the seminal substance that contains the sperms; And the other is internal (directly into the blood), which are male hormones such as Androsterone and Testosterone.

B - The ovaries:

They are two oval glandular organs located on either side of the pelvis. Each of them secretes two types of secretions, one of which

is external, which are eggs, and the other is internal, which are the hormones known as estrogens and progesterone.

Praying at an early age

There is a wonderful scientific study that revealed the relationship between prayer in childhood and back pain by Dr. Muhammad Walid Al-Shaarani, a consultant doctor in joint and orthopedic surgery from Doha (Qatar), and it was published in the Sixth International Conference on Back Surgery in Ankara (Turkey) in 2002.

The researcher had conducted his research on one hundred and eighty-eight adult men who were in their thirties. He divided those adults into three categories: 78 Muslims who used to perform the prayer before the age of ten, 50 Muslims who began performing the prayer after the age of thirteen, and 60 non-Muslims.

Al-Shaarani was able to prove through this study that prayer in childhood (before the age of thirteen) reduces severe pain and disc herniation in the lower back¹.

Dr. Al-Shaarani points out that Islam commands Muslim children to pray at an early age, such as when they are ten years old at the most. And in bowing (Ruku') in particular, the posterior longitudinal ligament of the back and the cartilage are subjected to a process of softening at least seventeen times a day, during the performance of the five daily prayers. Therefore, Muslim children subconsciously preserve the softness and elasticity of these tissues from an early age, and this prevents their stiffness in old age and thus prevents their rupture².

¹ The website of the Commission on Scientific Signs in the Quran and Sunnah.

² Previous source.

With regard to Sciatica, Dr. Al-Shaarani noted its absence in those who committed themselves to prayer before the age of ten and continued in it, and it occurred by 22% among those who started their prayers after the age of thirteen; While the incidence of sciatica was 25% among those who did not pray.



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Fasting

Fasting

Imam Ali said: “The fasting of the body is abstaining from food with a will and a test of punishment and a desire for reward and wage, the fasting of the soul is preventing the five senses from all sins, and preventing the heart from all causes of evil”¹.

And he said: “Fasting is one of the two health conditions”². And as it's known, the Imam's saying came from the inspiration of the Holy Qur'an and from the teachings of the Prophet Muhammad. The word fasting was mentioned in many places in the clear verses in the Qur'an.

The Holy Prophet summed up all the benefits of fasting by saying: “Fast, you will be healed”³. And: “Fasting is a shield”⁴. And: “You should fast, for it is a reduction of the blood in the veins and a relief from arrogance.” This means that fasting reduces diseases by eliminating them, and that it reduces the blood in the veins.

Fasting has been known for thousands of years among most peoples of the world, and it has always been the natural way to cure many diseases. What the Greek philosophers wrote since that time about the benefits of fasting can still be found in ancient manuscripts in museums around the world. Among those philosophers and doctors, we mention Socrates, Plato, Aristotle and Galen, as they all affirm that fasting is the natural way to heal from diseases.

There has been mentioned in the Holy Qur'an what indicates the existence of this phenomenon among nations before Islam, as the

¹ Uyoon al-Akhbar wa al-Mawaiz P.305.

² Ghurar al-Hikam wa Durar al-Kalim P.168.

³ Mustadrak al-Wasael V.7 P.502.

⁴ Shield means protection and everything that protects, and “fasting is a shield” means that fasting is a protection from lusts and sins.

Almighty said in Surat Al-Baqarah: (O you who believe! fasting is prescribed for you, as it was prescribed for those before you, so that you may guard (against evil))¹.

There is no longer the slightest doubt among doctors, philosophers, researchers and others that fasting is one of the necessities of life, and it is as the Almighty said in Sura Al-Baqarah: (and that you fast is better for you if you know)².

The truth is that humans are not the only species that fast. Natural scientists have found that all living creatures go through a fasting period no matter how much food is available around them. Animals fast and confine themselves for days and perhaps months in their holes where they refrain from food, and even insects pass during their life stages in the stage of the cocoon in which they fast when they are completely isolated within her cocoon. It has been observed that all these creatures come out after their fasting period and are more energetic and livelier, and most of them increase in growth and health after the fasting period.

As for the human being, fasting is of two types. The first is known as medical fasting or healthy fasting, which is almost a type of diet, while the other is known as religious fasting or Islamic fasting (for Muslims). Medical fasting has purely physical (bodily) goals related to the general physical health of the individual. While religious fasting has social, moral and educational goals in addition to health goals.

The importance of Islamic fasting also lies in the fact that it is a temporary fast, that is, from dawn to sunset. In 1964, Dr. Drenick and his assistants recorded a number of serious complications as a result of the continuation of fasting for more than (31-40 days).

¹ verse 183

² from verse 184

Therefore, the divine miracle came to dedicate one month to fasting, that is the blessed month of Ramadan.

Fasting the month of Ramadan has become a fast that is followed by all doctors, scientists and researchers, both Muslims and non-Muslims. Russian Professor Nikolaev Beloy (from Moscow) emphasized in his book “Hunger for Health” published in 1976, that every person should practice fasting by abstaining from food for 3-4 weeks every year in order to enjoy full health throughout his life.

Many scholars and researchers, both Muslims and non-Muslims, have written about fasting and during various ages. Perhaps the most prominent of what was mentioned in this regard are the following: Dr. Alexei Forin says in his book "Healing by Fasting" translated into Arabic¹ in 1930: “Fasting treats all diseases at once, while other treatments treat certain cases, and that the origin of most diseases is from excess food or what pass through the stomach and don't benefit the body. These extra nutrients generate many germs and bacteria, and they provide the required conditions for their growth, so the excess extra nutrition must be removed by abstaining from eating.”

As for Buchinger, he explained in his book “Treatment with Fasting as a Biological Method” published in 1941, how fasting is used to treat many incurable diseases, and he showed that hunger changes the composition of the organic structure of the body, and leads to the expulsion of toxins from it. Dr. Alexis Carrell, who won the Nobel Prize for Medicine and Physiology in 1912, says in his book “The Unknown Man”² which was published in Arabic in 1973: “A fasting person may first feel hungry and nervous, then a feeling of weakness follows; However, in addition to that, much

¹ translated by Muhammad Jaafar Emami.

² translated by Adel Shafiq, 1973.

more important hidden matters happen, as the sugar of the liver will be burned and it will burn with it the fat stored under the skin and the proteins of the muscles and glands, and all the organs sacrifice their own nutrition to maintain the stability of the internal environment of the body and the integrity of the heart, and that fasting cleans and replaces tissues.”

Pope Shenouda III pointed out in his book “The Spirituality of Fasting” that fasting is a period of resting for some bodily systems from the exhaustion resulting from eating, especially continuous eating or eating at irregular times, so these devices get confused when new food enters that needs to be digested over half-digested food over food that is about to finish digesting. As for fasting, the organs of the body take a great deal of rest.

Among the benefits of fasting is that it is useful for training not to eat between meals.

Fasting benefits

In addition to the psychological, spiritual and social benefits of fasting, as it makes the person give charity to the poor and the hungry, trains him to control and restrain himself, and increases his connection to society.

In addition to all that, fasting has many benefits, including the following:

- 1- It works to effectively maintain and clean the cells and tissues of the body to rid them of the accumulated toxins.
- 2- It strengthens the immune system and protects the body from many diseases.
- 3- It reduces the stimulation of the sympathetic nervous system, thus reducing the increase of the heart rate.

- 4- It is useful for dissolving the accumulated fat in the body to reduce obesity and sagging diseases.
- 5- It is useful in treating skin diseases and relieving allergic diseases.
- 6- It is useful for curing joint pain.
- 7- It is useful for treating many psychological diseases such as schizophrenia, depression, anxiety and frustration.
- 8- It lowers the testosterone hormone and thus it works to reduce sexual arousal.
- 9- Experiments have confirmed that fasting extends life.
- 10- Fasting affects the activation of brain cells that double their vitality to stop the activity of the digestive system, so that blood rushes abundantly to the brain tissues to nourish them.
- 11- Fasting reduces the amount of semen and breaks the sexual desire.
- 12- It reduces the level of urea and uric acid in the blood.
- 13- It is a good way to treat asthma and respiratory diseases.
- 14- It protects against heart disease and atherosclerosis.
- 15- It lowers blood pressure.
- 16- In sum, fasting is one of the most important weapons of preventive medicine.

Contraindications of fasting

It must be noted that fasting sometimes leads to some harm, and that is for some sick cases that cause severe harm, or severe pain or discomfort.

Despite the great benefits of fasting from the health and psychological standpoints, the Noble Qur'an did not neglect such cases. The noble Islamic law has lofty purposes aimed at preserving the human life and protecting it from harm, as the Almighty, the Most High, has permitted the abandonment of

fasting that may harm the fasting person, it was mentioned in the clear verses of the Quran:(and whoever is sick or upon a journey, then (he shall fast) a (like) number of other days; Allah desires ease for you, and He does not desire for you difficulty) (Surat Al-Baqarah, verse 185).

Among the diseases in which it is prohibited for a Muslim to fast, we mention the following:

- 1- A bleeding stomach ulcer.
- 2- Acute diarrhea.
- 3- Acute colon infections, especially when symptoms of bleeding and severe pain appear.
- 4- Malignant tumors of the gastrointestinal tract.
- 5- Viral liver diseases.
- 6- Some heart diseases.
- 7- Anemia.
- 8- Diabetes.
- 9- Acute chest infection and pulmonary tuberculosis.
- 10- Kidney failure and some acute and chronic kidney diseases.
- 11- In some cases of pregnancy and lactation.
- 12- Old age, it includes the old people or the ones who have signs of death.



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Breast-feeding

Breast feeding

Imam Ali said: “There is no milk with which a boy is breastfed has a greater blessing than his mother’s milk”¹. The Imam emphasized the importance of mother's milk for providing the infant with the nutrients necessary for his growth on one hand and to protect him from diseases that he may be exposed to on the other hand.

What is meant by breastfeeding here is (the natural breastfeeding), i.e. breastfeeding from the mother’s breast, to distinguish it from unnatural breastfeeding, which is sometimes called artificial breastfeeding, which in all cases means breastfeeding from other than the mother's breast milk.

With the passage of time, and after the great technical development in the methods and devices of scientific research, the value of mother's milk became evident to the general public, in terms of health and psychology.

And it was mentioned in the Noble Qur’an in Sura Al-Baqarah: “And mothers breastfeed their children for two whole years for whoever wants to complete the breastfeeding”².

It is worth noting that the World Health Organization (WHO) highly recommends natural breastfeeding for the first six months of a newborn's life, with presenting solid foods gradually after this age. It is recommended to breastfeed the child until the age of two as long as the mother and the child desire to do so.

In addition to the human and moral aspects of the mother towards breastfeeding, the latter benefits both the newborn and the mother.

Breast milk contents:

¹ Al-Kafi book V.6 p. 40

² verse 33

The amount of milk produced by the mother depends on the mother's feeding of her child. The more a woman breastfeeds her child, the more milk she will produce, so it is very beneficial to breastfeed the child on demand rather than focusing on a special feeding schedule.

The mother's milk provides her infant with sufficient amounts of calories during his life in the lactation period.

In general, breast milk contains the following substances:

- 1- Colostrum: It is a yellow food substance rich in proteins and antibodies that provide immunity to the infant. It is secreted by the nursing mother during the first three days of birth.
- 2- Fats and fatty acids, especially unsaturated fatty acids.
- 3- Proteins such as casein, lactomysin and lysozyme.
- 4- Carbohydrates, such as lactose.
- 5- Minerals, such as calcium, phosphorous, sodium, potassium and chlorine.

Breast milk specialty

Mother's milk has a specific feature that no other milk has. Studies have confirmed that it is more beneficial than other milks because it contains nutrients that exceed what is found in non-human milk. When comparing mother's milk with cow's milk, for example, we find the following observations:

- 1- Cow's milk lacks amino acids such as cysteine and taurine.
- 2- Mother's milk is richer than cow's milk in lactose.
- 3- Breast milk contains fatty acids such as omega acid, which are necessary for the development of the nervous system.

- 4- Breast milk is an important source of nucleotides (the basic units for building and synthesizing chromosomes in the cell.) that help form new cells.

Breastfeeding from the mother's breast

In addition to the many benefits that breast milk provides for children, there are many benefits also provided by breastfeeding to the mother, among which we mention the following:

- 1- Breastfeeding helps the mother to contract the muscles of her uterus during the puerperium because of stimulating the cells of the body hypothalamus in the brain to release the hormone oxytocin, which works to contract these muscles during the puerperium so that the uterus returns to its normal size that it was before pregnancy.
- 2- Breast sucking, when breastfeeding, leads to an increase in the amount of milk, due to the effect in the brain of an increase in the breastfeeding hormone known as Prolactin from the cells of the anterior lobe of the pituitary gland, which in turn urges the mother's breast to increase its production of milk.
- 3- It helps protect the mother from the formation of abscesses caused by the accumulation of milk in the breast, and therefore breastfeeding helps reduce the incidence of benign tumors, and the risk of breast cancer in later life.
- 4- Due to the hormonal imbalance that occurs during pregnancy and after childbirth, the excess secretion of the hormone prolactin is a natural contraceptive for the mother because of its effect in preventing or delaying the formation of the ovule.
- 5- Breastfeeding causes amenorrhea in the nursing mother, and this helps prevent uterine congestion and ease of contraction.

- 6- It reduces the bleeding caused by childbirth.
- 7- It helps the mother to return to her pre-pregnancy weight.
- 8- It provides an intimate presence for the mother in the life of her child. If she is breastfeeding him in a calm mood and a normal psychological state, this will affect the child's behavior. But if the mother is nervous and tense psychologically, this will undoubtedly be reflected on her baby, and then may affect his mood and behavior.

And the Imam did not neglect that when he said: “Do not make a fool breastfeed your children, for the milk overcomes temperament”¹, he also said: “Look at who breastfeed your children, for the child is growing up on it”².

Breastfeeding Benefits

Breastfeeding offers many health benefits for the baby, and among these benefits we mention the following:

- 1- Reducing sudden infant death syndrome.
- 2- Reducing the possibility of middle ear diseases.
- 3- Reducing the incidence of cold and flu diseases.
- 4- Reducing some types of cancers, such as leukemia, in childhood.
- 5- Reducing the risk of diabetes in children.
- 6- Reducing the risk of developing eczema.
- 7- Reducing dental problems.
- 8- Reducing the risk of mental disorders.
- 9- Colostrum helps in increasing the immune globulin type A (IgA) which covers the gastrointestinal tract, which helps protect newborns through the helping their immune system to function properly.

¹ Al-Kafi: V.5 P.354

² Al-Kafi: V.6 P.44

Breastfeeding from other than the mother

It has been the custom in our societies since ancient times that mothers breastfeed children other than their own, because of the scarcity or lack of milk for the mothers of those children or for other reasons. Although there are benefits that do not differ from the benefits of breastfeeding from the mother, there are some negative aspects that the infant may suffer from, such as the transfer of some substances from the nursing mother to the infant with milk; In addition to some psychological features that may be transmitted to the infant as well. And the Imam said in this regard: “Choose who breastfeeds your children as you would choose for marriage, for breast-feeding changes the character”¹.



¹ Qurb al-Isnad P.93

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Public health Issues

Public health Issues

In addition to the eloquent wise sayings and aphorisms mentioned in the previous chapters of this book, Imam Ali talked about many public health issues which are, as we see, complementary to what is mentioned in those chapters and they are directly related to the health of the individual and his daily life. Some of these topics are the following:

- **The Miswak**

The Commander of the Faithful said: “Three remove phlegm and increase memorization: tooth brushing (with Miswak), fasting, and reciting the Qur’an”¹. And he said: “The Miswak (brushing) is purifying for the mouth and pleasing to the Lord”².

It was narrated that the Holy Prophet Muhammad said: “The Miswak has ten qualities: it purifies the mouth, is pleasing to the Lord, multiplies the good deeds seventy times, and it is from the Sunnah (Islamic tradition), and it removes the pits, it whitens the teeth, strengthens the gums, it removes the cloudiness of the eyes, and it makes food more delicious”³.

The origin of the miswak

Miswak is taken from the roots of a tree known as Arak in the Arab countries or Neem in India, and the scientific name is *Salvadora persica*. The Arak tree is a perennial desert tree that spreads in various regions of the Arabian Peninsula, Africa and India, reaching a height of about ten meters sometimes. The roots of the arak extend below the surface of the soil, they are uprooted and cut into small sticks, which make the toothpicks.

¹ Bihar al-Anwar, V.73; P.133

² Bihar al-Anwar, V.73 P.138

³ Bihar Al-Anwar, V.73 P. 128-129

Miswak Ingredients

The roots of Arak (miswak) contain many chemical components, including the following:

- 1- A high percentage of fluoride, chloride, sulfur and silica.
- 2- Vitamin (C).
- 3- Small amounts of saponins, tannins and flavonoids.
- 4- Large amounts of sitosterol.
- 5- It also contains quantities of resinous materials.
- 6- The substance (trimethylamine).

How to use it?

To use the miswak, the following instructions must be followed:

- 1- Clean the arak roots after collecting them from the soil, wash them well and then dry them.
- 2- Avoid placing the toothpick uncovered and exposed to dirt accumulation. Rather, it should be kept in a place away from moisture.
- 3- Cut the used filaments before use, then cut off the tip of the toothpick with a sharp knife, and mash it with the teeth until the fibers appear to be ready for use in the form of a brush. Recently, special pens have been made in which the miswak is placed in order to make it easy to carry in the pocket and to maintain its freshness.
- 4- Do not sculpt the teeth and harm the gums with a toothpick, as this may lead to excessive sensitivity of the teeth.

Miswak Benefits

Miswak has many benefits, including the following:

- 1- Miswak works to stop the growth of bacteria in the mouth, because it contains sulfur. The Director of the Institute of Microbes

and Epidemiology at the University of Rostock, Germany, indicated in his research that the toothpick used by Muslims is one of the finest means of cleaning teeth because it contains an effective substance against bacteria similar in effect to penicillin.

Dr. Christine, a professor of dentistry and periodontology at the University of Illinois, USA, pointed out that the toothpicks used in Namibia, for example, extracted from the plant (*Diospyrus lycidius*) contain six compounds that fight microbes, four of which are combined with diospyron and the other two are juglone and (7-methyl Juglone), which are the most effective against bacteria, as their effectiveness is similar to a mouthwash known as (Listerine).

2- It lowers the pH of the mouth due to the presence of Trimethylamine, and the low pH reduces the chances of bacterial growth in the mouth.

3- It works, by the action of sitosterol and vitamin (C), to strengthen the capillaries that nourish the gums, which increases the blood circulation to them in sufficient quantities.

4- It increases the whiteness of the teeth due to the presence of chloride, fluoride and silica, and the toothpicks remove the layer of plaque. Scientists have considered that plaque is the main factor for dental caries and gum disease that affects the tissues surrounding the teeth. And this plaque is formed when oral bacteria begin to form their colonies that occupy the teeth. In general, the toothpicks are a means of cleaning the mouth and teeth. The World Health Organization has encouraged to use the miswak as an important tool in this field, especially in poor countries, because the miswak is a natural, cheap and available toothbrush for everyone. It should also be noted that the arak is used in the preparations of toothpastes.

5- Prevents tooth decay due to the presence of fluoride.

6- It sweetens the mouth with its good flavor.

7 - improves the voice.

8- The drenched arak root is used as a drink, to kill some types of bacteria in the stomach and intestine.

9 - Coating the teeth with arak powder strengthens and repairs the gums and purifies them from waste and germs.

10 - As for the fruit of the arak, it strengthens the stomach, improves digestion, removes phlegm, and is useful for back pain.

The conclusion

Miswak plays an important functional role in maintaining the public health of the individual by cleaning the mouth and teeth, if we consider that the mouth is the main entrance to the human body, and it is the gate overlooking the various organs of the body through which the organs of digestion, breathing, circulation, nervous system, senses and others are preserved.

And the more time passed, the more the need for its use increased, by revealing more knowledge about its basic ingredients. Since the time of Imam Ali to this day, the need for such an effective means continues to play its role in contributing to the preservation of the health and safety of the individual in many regions of the Islamic world.

- **Cupping**

Imam Ali said: “Cupping heals the body and strengthens the mind”¹.

And he said: “Seek healing with violets, and you should use cupping”¹.

¹ Bihar al-Anwar: vol. 59, p. 120

He also said: “Whenever the Messenger of God suffered from pain, his first treatment was cupping”².

And on the authority of Shuaib Al-Aqrafi, on the authority of Abu Ishaq Al-Azdi, on the authority of Abu Ishaq Al-Sabi’i, on the authority of whom he mentioned that the Commander of the Faithful used to wash his body after cupping and bathing, Shuaib said: I mentioned it to Abu Abdullah Al-Sadiq, and he said: When the prophet used to do cupping, his blood swelled up and his blood pressure got high. So, he used to wash with cold water to cool down the temperature of the blood. And that when the Commander of the Faithful used to enter the bathroom, his body temperature got raging, and he poured cold water on his body, so the heat would cool down³.

What is cupping?

Cupping is to hold the blood under the skin or withdrawing it from the body. The first case is known as dry cupping, without excreting the blood. As for the second case, it is called (blood cupping).

Linguists define cupping as the craft of cupping, and to cup means to aspirate. The cupping machine is the machine that collects the blood of cupping when aspiration. The name cupping may come from the size and scaling, that is, to reduce something.

Cupping is an ancient medical practice known to man since the ancient times, since the time of the Chinese, Pharaohs, Babylonians, Indians, Greeks and Romans. As for the Arabs, they knew cupping much before Christ, for their medicine was limited to ironing and describing some plants and weeds, in addition to the practice of cupping.

¹ Bihar al-Anwar: Part 62, p. 115

² Al-Jaafariyat: p. 162

³ The Medicine of Imam Ali by Mohsen Aqil: p. 381

The Holy Prophet Muhammad endorsed cupping and recommended it to his nation. Among his sayings in this regard:

- “Healing is in three: a drink of honey, a cupping ripping, and cauterization with fire. And I forbid my nation from ironing”¹.
- And: “Do cupping for yourself if blood effervesces in you, for the blood may effervesce² in the body, and it may kill the person”³.
- And: “Cupping on the head is a cure for every disease except death”⁴.
- And: “How good cupping is in the Eid, it improves the sight and removes diseases”⁵.
- And: “the best treatment you have: cupping and phlebotomy”^{6,7}.

Cupping method

Whether the cupping is dry or bloody, narrow-mouthed and wide-bodied glass cups called cupping glasses are used, and the air is emptied, either by burning a little cotton or a piece of paper inside them and then they are directly placed on the skin on which cupping is required.

Cupping locations

The cupping that is familiar to people is in a place between the shoulders, but this does not mean that it can't be performed in other

¹ Al-Tib Al-Nabawi: p. 44

² The word effervescence means increase or irritation

³ Tib al-A'imah by Ibn Bastam: p. 57

⁴ Bihar al-Anwar V.59 P.114

⁵ Ma'ani Al-Akhbar: P. 247

⁶ Phlebotomy is the extraction of blood by a needle to remove congestion

⁷ Al-Tib al-Nabawi P.47

places of the body, according to the need that requires cupping, it may be in the head, in the temples, under the jaws, in the muscles of the legs, etc...

Cupping benefits

Among the benefits of cupping, we mention the following:

- 1- Ridding the body of toxic substances and senescent cells.
- 2- Regulating the work of the autonomic nervous system.
- 3- Regulating endocrine secretions, which leads to hormonal balance in both males and females.
- 4- It reduces high blood pressure.
- 5- Balance of acids and alkalis in the blood.
- 6- It calms the nerves.
- 7- It activates and renews blood circulation by stimulating the production of new blood cells.
- 8- Activates the lymphatic system.
- 9- It activates neurotransmitters due to the increase in dopamine secretion.
- 10- It activates the movement centers in the body.
- 11- It is useful in treating chronic headaches and migraines.

- **Diet**

The diet was not far from the health and medical guidelines of Imam Ali. He recommended it a lot, and his eloquent aphorisms are clear in this regard.

- He said: “Health can only be obtained through diet”¹.
- And: “The wellbeing of the body is through diet”².
- And: “the stomach is the home of diseases, and diet is the head of medicine, and there is no health with gluttony”³.
- And: “He who is not patient with the reluctance of a diet his illness will prolong”⁴.
- And: “two are ever ill, a healthy man who doesn't eat balanced food, and an ill person who doesn't follow a diet”⁵.
- And: “Do not make your stomachs the graves of animals”⁶.

What is diet?

Diet is a special regime for adapting food to the general state of human health. Diet is of two types: one for the sick, and one for the healthy.

Patients' diets are of different types, and all of them are related to the patient and the nature of his disease. Each of these diets has its own regime. Examples include the high blood pressure diet by avoiding table salt, the diabetes diet by avoiding eating sugar, and the body weight control diet by avoiding consuming a lot of fluids and carbohydrates.

Doctors still direct their patients in many health cases to adhere to the diet because it represents the basis of the treatment, or rather it is the whole of the treatment. Here, both the doctor and the patient require full knowledge of the types of foods and their nature in

¹ Mustadrak al-Wasail V.16 P.453

² Hidayat al-Ilm fi Tanzim Ghurar al-Hikam: p. 169

³ Ghurar al-Hikam wa Durar al-Kalim: p.483

⁴ Ghurar al-Hikam wa Durar al-Kalim: p. 320

⁵ Safinat al-Bihar: V.2 P.458

⁶ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid: V.16 P.26

order to use it to achieve what is intended for them to provide the required health for the individual.

- **Fever**

It is a condition in which the body temperature rises above the normal level, and it is one of the most common diseases.

One of the most prominent symptoms of fever is an increase in the internal body temperature, which may reach 42° C, which is higher than the normal body temperature of about 37° C.

Imam Ali referred to this in many places: He said: “Poured cold water on the feverish in summer, for it cools their heat”¹.

And: “Cool down the heat of fever with violets and cold water, for its heat is from the heat of Hell”².

As for the Noble Prophet Muhammad, he said: “Fever is from the heat of Hell, so cool it down with water”³.

Despite the great development in the means of treatment and the types of medicines, many cases in which the patient's temperature rises are not affected by antipyretic drugs, so doctors recommend the use of cold water or compresses to reduce it.

Fever symptoms

Other symptoms of fever include the following:

- 1- Increase of the heart rate.

¹ Al-Bihar V.59 P.97

² Al-Bihar V.62 P.221

³ Al-Tib Al-Nabawi: p. 25

- 2- Feeling of chills.
- 3- Thirst.
- 4- Loss of appetite.
- 5- Dry skin.
- 6- Headache and pain in the head.
- 7- Turbidity in urine.
- 8- Feeling of broken organs, i.e. muscle weakness.
- 9- Sometimes delirium.

When the fever is the main symptom of the disease, it becomes part of the disease, as is the case in the case of scarlet fever or yellow fever.

Not every rise in temperature is a fever. Exercising in a hot weather, for example, or sitting in a steamy bath may cause an increase in body temperature above the normal level.

In this case, the brain instructs the body to lower its temperature by secreting sweat and increasing blood flow in the skin.

Hypothalamus¹ and fever

The hypothalamus plays a critical role in regulating and maintaining body temperature at a constant rate. It contains special thermal receptors that are extremely sensitive to changes in the temperature of the blood passing through it, as they are affected by a very small change of up to one percent of one temperature (0.01) C. The center of thermoregulation in the hypothalamus is what is known as the thermostat, a very sensitive and very precise organ that works to keep the body temperature constant around its normal level.

¹ It is the link between the autonomic nervous system and the secretory system through the pituitary gland. Its function is to control metabolic processes and some involuntary actions. It contains the center for controlling hunger, thirst and temperature.

It has been observed that there is a center to stimulate heat loss from the body located in the anterior region of the hypothalamus, and another center to stimulate heat generation from the body and prevent its leakage from the outside is located in the posterior region of the hypothalamus.

This center works with another center located in the hypothalamus, which is also responsible for regulating the phenomena of thirst and hydration by working to regulate the amount of fluid consumed by the individual.

Fever benefits

On the other hand, fever is not necessarily harmful, but rather has several benefits. It has been proven that when a patient has a fever, the proportion of interferon increases in the body. This substance, which is secreted by white blood cells, works to eliminate viruses that have attacked the body, and it is more capable of forming protective antibodies.

There are some diseases in which fever is much more beneficial than drinking medicine, as is the case in the case of rheumatoid arthritis in which treatment with artificial fever is used.

And when fever was mentioned to the Messenger of God and a man cursed it, the Prophet said to him, “Do not curse it, for it expels sins as fire removes the impurity of iron”¹.

Fever and food

In addition to the medicines used to treat fever, there are many foods that lower the body temperature, in addition to the necessary fluids that must be taken to compensate for the fluids lost by the person during his fever.

¹ Al-Tib Al-Nabawi: p. 29

Among the foods that are preferred to be eaten by a feverish person, we mention light plant foods, cooked fruits, and soups of all kinds, such as fruit and vegetable soup.

In this regard, Imam Ali recommended eating food to relieve fever, as he said: “Raisins strengthens the heart, takes away illness, quenches heat, and sweetens the breath”¹.

And: “Grapes eliminate with fever”².



¹ Al-Bihar V.66 P.152

² Al-Bihar V.62 P.232

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Reproduction and Infertility

Foreword

This chapter will be devoted to studying a number of basic topics related to reproduction and infertility in particular, and sexual life in general, in order to complement the other contents of the book in reviewing the medical and public health concepts derived from the words of the Commander of the Faithful.

In order to form a comprehensive picture of these topics, we will talk about them separately sometimes and overlapping with each other at other times, due to the nature of the topic being discussed.

And Imam Ali has many sayings in this regard, as he said: “Whoever is suffering from a change in the spermatic fluid, then milk and honey will benefit him”¹.

What is meant by the spermatic fluid here is the inability to achieve childbearing, and the Imam recommended consuming milk and honey because of the necessary nutrients that help in the natural growth of the male and female reproductive systems and help improve the condition of male gametes (sperm) and female gametes (ova) alike. They also help the aforementioned devices to function normally.

In Chapter Thirteen, we referred to the emergence and development of the fetus inside the mother’s womb, which is a clear indication of the obvious fertility. The opposite of fertility is the inability to produce offspring in married couples, which is known as sterility or infertility. The causes of infertility or childlessness are very many and manifold, some of which are related to the man, and others are related to the woman.

Causes of male infertility

¹ Ramz al-Sahha: p. 96

Infertility has many causes, including the following:

- 1- The inability of the testes to produce male gametes (sperms) for various reasons that may be synthetic related to the composition of the testicular tissue in particular or related to the composition of the male reproductive system and glands attached to it in general. This condition is known as Azospermia. Or it may be hormonal due to a deficiency or increase in the hormones responsible for the emergence of male sperm, such as the pituitary hormones responsible for completing this process, such as the pituitary follicle-stimulating hormone known as (FSH) and the yellowish or luteinizing hormone, which is symbolized by (LH), as well as testicular hormones such as testicular fat (testosterone) and inhibin.
- 2- A blockage in the seminal cords, which prevents the sperm from coming out with the semen when the seminal ejaculation occurs outside the body.
- 3- The testicles do not descend into the scrotum.
- 4- Less volume of semen in one ejaculate than the normal limits, which is (2-5) ml per ejaculation.
- 5- The inability of the testes to produce a sufficient number of sperms, which is less than 20 million sperms per milliliter of seminal ejaculation, and this condition is known as oligospermia.
- 6- The inefficiency of the sperm itself in terms of movement; As less than 50% of them are ineffective under normal conditions, and this is what is medically known as asthenozoospermia.
- 7- Or the sperms are deformed, by more than 70%, and this condition is known as teratospermia.

Causes of female infertility

As for the causes of female infertility, we mention the following:

- 1- The inability of the ovary to produce ovules in a normal way, either due to a defect in the composition of the ovaries or a defect in the hormonal levels responsible for the formation of the ovules and its exit from the ovary.
- 2- Blockage of what is known as the fallopian tube, which hinders the meeting of the ovules with the male sperms.
- 3- Irregular menstruation in women.
- 4- Congenital malformations of the uterus.
- 5- Lack of knowledge of the principles of general sexual education, such as the date of ovulation and the dates of intercourse that can achieve fertilization and pregnancy.

Pregnancy, childbearing, childbirth, breastfeeding, motherhood and others are inseparable qualities that reinforce one another in order to achieve the goals that marriage seeks to achieve, which is to build a family that will be a nucleus for building societies.

Imam Ali's description of most of these qualities is achieved in his eloquent saying: "Or look at man whom Allah has created in the dark wombs and layers of curtains from what was overflowing semen, then shapeless clot, then embryo, then suckling infant, then child and then fully grown-up young man"¹.

Procreation

Procreation is a biological phenomenon that aims to preserve the species from extinction, and it is a general phenomenon that occurs in all living organisms, including humans. However, in the human being, procreation is accompanied by legal situations that are consistent with human progress and his biological sublimity, so

¹ Sharh Nahj al-Balaghah by Muhammad Abdo P.128

they are subject to religious and social regulations and norms that regulate its course.

Marriage

Perhaps the master of these norms and controls is marriage. Marriage is one of the ways of life, as one must fulfill it in order to pass through paternity (for males) and motherhood (for females).

For a successful marriage to happen, the following must be available:

1- Marriage should take place since puberty and beyond for both sexes.

2- Marriage eligibility for both spouses in different respects.

3- Good choice of partner, and one should know one another very well to avoid negative surprises that may occur during or after marriage, as this may lead to the failure of the marriage. It is certain that each of the spouses has certain specifications that they desire in the other party, whether those specifications are physical, moral, social, economic or other. They have to search for them to achieve as much as possible of them, if not all of them, to achieve the desired goal of marriage, which is to achieve complete harmony between the two partners.

4- It is preferable to marry a non-relative.

The Noble Prophet clearly indicated that when he said: “Stay away from your relatives and do not give birth to weak children”¹.

It is a metaphor that is intended to marry strangers and not to marry relatives. And the Arabs used to say that marriage with strangers results in a better offspring, and marriage with relatives

¹ Al-Majazat Al-Nabawiya: p. 92

results in weak children; Which means that such marriage will lead to a weak offspring. An Arabic poet said in this regard: “A good boy is he who was not given birth by a close relative, so he isn't weak, and marrying relatives may result in sick offspring”.

Another poet said: “And I didn't marry my cousin despite she is close, because I feared my children will be weak”.

Marriage benefits

Marriage has many benefits, including the following:

- 1- Legal marriage achieves a state of psychological balance and familial stability by satisfying the instinctive sexual need of the human being.
- 2- Marriage contributes to building the family as a basic nucleus for building society.
- 3- It protects the human race from extension.
- 4- It helps to achieve the integrity of the offspring.
- 5- Legal marriage helps to create noble values by manifesting the phenomena of fatherhood, motherhood and filiation.
- 6- It protects both parties from the transmission of sexual diseases.
- 7- Fornication is one of the most dangerous things that may lead to the demolition of marriage, both morally and healthily.

Among the sayings of Imam Ali about adultery, we mention the following: “An honorable man never commits fornication”¹.

And: “God obligated faith to purify from polytheism, prohibiting fornication in order to protect lineage, and prohibiting homosexuality to increase the offspring”¹.

¹ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.19 p.211

The Holy Prophet Muhammad urged his nation to get married by saying: “Marry, for I will proud of your number among the nations”².

The Prophet also recommended eating meat and eggs to improve the sexual drive by saying: “Meat and eggs increase the libido”³.

Intercourse

As for intercourse, which is the process that leads to childbearing (when this is desired), it was also given attention by the Imam. He said: “If one of you has aches in his body and the heat has overcome him, then he should go to bed”⁴, and it was said to Imam Al-Baqir: O son of the Messenger of God, what is the meaning of going to bed? He said: “having sex with women, for it extinguishes them”⁵.

The Commander of the Faithful was asked about the sexual intercourse, and he said: It is shame that is lifted, loins that are joined and the closest thing to insanity. Persistence in it makes one senile and revival from it brings regret. When lawful, its fruit is a son who, if he lives, subjects [one] to trial and if he dies, causes sadness”⁶.

How beautiful and eloquent this accurate description of the sexual intercourse is, since it's a shame that rises between the spouses and is difficult to achieve between others because of the meeting of the loins, and the mechanism of action is like madness, as it cannot be performed at times other than the times of intercourse.

¹ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.19 P.86

² Al-Tib Al-Nabawi: pg. 190

³ Daa'im al-Islam V.2 P. 109

⁴ Bihar Al-Anwar V.62 P.264

⁵ Al-Ramz Al-Jali: p. 36

⁶ Uyoon al-Hikam wa al-Mawaiz P.234

The insistence on it leads to fatigue and exhaustion. As for waking up from it, it may generate regret among some for what they were before the situation, of behavior that may be weird.

A lawful intercourse, i.e. that takes place in a legal manner; is only between the spouses, and it will lead to childbearing in the usual cases. The result of that intercourse is the legitimate offspring (halal), and the halal child is the one who achieves the phenomenon of fatherhood and motherhood in societies, and it is he who contributes to the completion of the family.

Despite the benefits resulting from the sexual intercourse which are embodied in fulfilling the sexual desire between the two partners in a psychological atmosphere that calms the human troubles and his life resulting from his daily work which is spending a good time and obtaining pleasure and enjoyment, we say despite that, a lot of it leads to physical weakness and weak eyesight. So it should be in moderation. The imam said: “Whoever wants to live long, although nobody will stay, he should reduce his clothes, eat breakfast early, and should have less sex with women”¹.

Among the other purposes of the sexual intercourse are the preservation of human offspring, the permanence of the human species, and the expulsion of the seminal fluid the occlusion and congestion of which are harmful to the body as a whole. Doctors believe that sexual intercourse is an activity with genuine health benefits².

¹ Bihar al-Anwar V.59 P.262

² Al-Tib al-Nabawi P.189

Menstruation

Since we are talking about marriage and intercourse, it is useful to refer to menstruation.

Menstruation has been associated with several concepts and procedures in different religions and cultures.

Menstruation is mentioned in the Holy Qur'an:

"And they ask you about menstruation. Say: It is a discomfort; therefore keep aloof from the women during the menstrual discharge"¹.

Menstrual bleeding is accompanied by the expulsion of the inner membrane of the uterus, which lasts between four and six days at a general rate. The Prophet Muhammad said about it: "The least menstruation is three days and the most is ten days"².

Menstruation occurs monthly and regularly, and it is a stage of the menstrual period that a girl goes through since puberty until menopause, and these stages are (briefly):

1 - Follicular Phase: It starts from the end of menstruation to the beginning of the ovulation phase. In this phase, estrogen is secreted, which helps to strengthen the uterine wall and prepare it to receive the fertilized ovule, then the secretion of this hormone decreases, and the secretion of the hormone begins that helps to remove the ovule from its sac, known as the luteinizing hormone (LH).

2 - The ovulation phase, which usually begins on the fourteenth day since the beginning of menstruation, when the ovule begins to leave the ovarian follicle to go to the fallopian tube and then to the

¹ Sura Al-Baqarah, verse 222

² Sunan Al-Daraqutni V.1 P.219

uterus. It is worth noting that the ovule remains alive for 24-48 hours.

3 - Luteal phase: the luteal phase, in which estrogen and a large amount of progesterone are secreted, which help to increase the density of the inner lining of the uterus to receive the fertilized ovule. At the end of this phase, pregnancy occurs in the event of fertilization, and the secretion of follicle-stimulating hormone (FSH) is prevented in order to prevent the maturation of new follicles. When fertilization does not occur, the corpus luteum begins to atrophy, the lining of the uterus peels off, and the bleeding comes out of the capillaries forming menstruation (again).

We noticed from this that the mechanisms of the menstrual period are mainly subject to the control of hormones, especially the pituitary hormones known as follicle-stimulating hormone (FSH), luteinizing hormone (LH) and ovarian hormones such as estrogen and progesterone.

Menstruation is harmful to women, as the blood vessels of the uterus open and become ready to accept infection.

In menstruation, it is harmful for a man who has intercourse with a menstruating woman, as he is exposed to infection from menstrual blood if it contains germs. And that the transfer of part of the menstrual blood to the urinary canal of the male causes inflammation in it, which may in turn move to the prostate, bladder, ureters and kidneys.



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Forensic Medicine

Forensic Medicine

Imam Ali as a judge

Imam Ali was not only a forensic physician, but rather he was a shrewd judge who played a major role in revealing many criminal offenses and issued judicial sentences that laid the foundations of the judiciary on solid basis that are still strong until now.

It is known that the judge should be known by wit, acumen and prudence, and to be fully aware of the daily details of people's lives and affairs; All of these are just the tip of the iceberg of the qualities of Imam Ali that led him to be a leading school of judiciary in ancient and contemporary history.

His characters enabled him to be a just judge, inquiring about events and eliciting sentences from what he inspired from the Glorious Qur'an and the teachings of the Noble Prophet Muhammad of good characters, straight education and great knowledge.

The data of the administration of the judiciary at the present time confirmed what the Imam said. This was confirmed by the Noble Prophet Muhammad as he granted the Imam a certificate of eligibility in this field by saying "The best judge among you is Ali"¹.

Among the examples of the judgment of the Commander of the Faithful, we mention the incident of the woman who denied her son. Asim bin Hamza said: A boy and a woman came to Umar, and the boy said: This is my mother, by Allah, she carried me nine months in her womb, and nursed me for two whole years then she disowned me and kicked me, and claimed that she doesn't know me. So, they were brought with four of her brothers and 40 men

¹ A'yan al-Shia V.1 P.342

swearing that this boy is a liar and unjust who wants to expose her in her clan, and that she is still a virgin and no one has ever married her. So, Omar ordered that the boy to be punished, but the boy saw Ali and said: O Commander of the Faithful, judge between me and my mother. He sat in the position of the Prophet and said:

Do you have a guardian? She said: Yes, these four are my brothers. He said: Will you accept my judgment on you and your sister? They said: Yes.

He said: I make Allah and everyone present here that I coupled in marriage this woman and this boy for four hundred dirhams, and I will pay from my money. O Qunbar, bring me the money! So, he brought it to him, and the Imam said then: Take it and give it to your wife and take her home. So, the woman yelled: Save me, O cousin of Allah's messenger! This, by God, is my son, and my brothers made me marry a lowly man, and I gave birth to this boy, and when he reached puberty and grew up, they disowned, and they ordered me to abstain from him and I was afraid of them. Then, she took the boy's hand and went with him¹.

There are many other stories about sentences which the Imam issued. We mention the implications of the most important ones:

- 1- Differentiating between a female's mother's milk and a male's mother's milk to decide the child's mother based on his gender.
- 2- A woman who committed fornication while pregnant.
- 3- The overruling of the punishment of the insane woman who committed adultery with a man.
- 4- The case of a woman who had an intercourse with her husband then she had sex with a virgin slave girl.

¹ Al-Manaqib: Part 1, pg. 494

Imam Ali as a forensic physician

There are famous examples of the Imam as a pioneer of forensic medicine in his age. His scientific excellence led him to careful induction in explaining phenomena according to the foundations of his known methodology which formed the base for the scholars and researchers who came after him to follow his footsteps and in accordance with his judgment and commandments in this field.

We will mention some of the eminent and expressive examples of Imam Ali forensic medicine to clarify the point:

First case

A woman got attached to a man from the Ansar, and she loved him and was unable to get him. So, she took an egg and took out the yolk from it and poured the egg white on her clothes and between her thighs and accused the man.

The case was brought to the Imam, and when they brought the woman in front of him, the Imam looked at the whiteness and doubted it and said: “Bring me hot boiling water, and when the water was brought to him, he ordered them to pour it on the place of the egg white, so the egg whiten became cooked, then the Imam smelled it, then threw part of it in the his mouth, and when he recognized the taste of eggs, he threw it and then he faced the woman until she admitted what she did”¹.

Modern science came, much after the Imam’s era, to confirm, through laboratory chemical studies, that eggs contain a high percentage of proteins and amino acids, which change their composition noticeably due to heat. If the contents of an egg were exposed to heat (more than 50 degrees Celsius, for example), then it will lead to a change in its shape from liquid to solid by breaking

¹ Qada' Amir al-Mu'minin P.14

the weak hydrogen bonds and keeping the covalent bonds intact because they are strong and more heat-tolerant, and then the contents of the eggs that are exposed to heat will become more solid and relatively frozen.

The second case

Imam al-Kazim said: “A man brought a woman to the Commander of the Faithful and said: O Commander of the Faithful, I married my wife as a virgin, but at my wedding night, I found her not a virgin. He said: Woe be to you! Virginity can go away from a jump, bouncing, menstruation, ablution, and being single for so long”¹.

Virginity and the hymen

The virginity of the girl and her chastity in conservative societies are inferred from the hymen. The hymen is a thin membrane of skin that separates the outer and middle third of the vagina and has a very small opening that allows menstrual blood to flow out. The membrane differs from one girl to another. Its opening might be circular, oval, crescent or perforated, and in rare cases, the hymen might be completely closed.

It was noted that the hymen ruptures in the following cases:

A - When penetration during sexual intercourse.

B - An accident that leads to injuries in the vulva, including the hymen. Among these injuries, we mention the following:

1- Doing some kinds of sports.

¹ Al-Jaafariyat: p. 103

2- Riding horses sometimes.

3- Directing a strong water flow to the area.

4- The hymen increases in hardness and decreases in flexibility with age. If a girl exceeds the age of thirty while she is a virgin, her hymen increases in hardness and durability, and thus staying single might lead to the atrophy of the hymen and not getting ruptured (when getting married).

Third case

There is a famous historical story about a girl who was brought to Imam Ali by her father and her brothers, and her father said: O my master, this girl is my daughter and she dishonored me before my tribe, as she is pregnant and young, so reveal this grief.

The imam said: What do you say, girl? She said: My master, as for his saying that I am virgin, it is true, and as for his saying that I am pregnant, then I swear by you, my master, that I have never committed adultery.

So he went up on the pulpit and said: "Bring me the midwife of Kufa". A woman called "Labnaa" came and she was the midwife of the women of Kufa, and he said to her: Stretch a veil between you and the people and look at this slave girl whether she is pregnant and virgin or not. So she did as he told her, then she went out and said: Yes, my Master, she is a pregnant virgin woman. The Imam said to her: "O midwife, take this piece of ice and take the girl out of the mosque and leave a bowl under her and put this piece of what is next to the vulva, and you will see a leech weighing seven hundred and fifty dirhams." So she did that, and she brought the girl and the leech back to him and everything was as he said. Then he said to the girl's father: Take your daughter,

for, by God, she did not commit fornication, but she swam in some water, and this leech entered inside her vulva and grew there.

It is not surprising that such rare situations occur, but the smartness of the Imam, his acumen and his ability of correct induction led him to reach this conclusion.

In addition to the growth and enlargement of the leech inside the vulva, such cases can lead to a blockage in the hymen outlet, which leads to the accumulation of blood and other menstrual materials in the womb of the girl when she reaches the age of menstruation, which causes flatulence and the appearance that she is pregnant, but this is not the truth.

Forensic medicine

Which is known as forensic medicine or legal medicine is a branch of the basic sciences that the judiciary resorts to solve many of the cases it faces and in which it cannot issue a sentence without the opinion of medical expertise. The use of forensic medicine began in very early times, and the real use began by the Andalusian Arabs, and then moved to the Europeans through the Roman physician Paolo Zacchia.

Forensic medicine has a close relationship with other sciences such as chemistry, physics, toxicology, psychology, and others. Therefore, the forensic physician should be familiar with all branches of medical sciences, and other related sciences, because on his observations and his report, the fate of many people depends, since one of the most important cases presented to the forensic pathologist is the assault on individuals, and here he depends on his experience, skill, conscience and impartiality.

Fields of application of forensic medicine

Forensic medicine plays its role in the following areas:

- 1- Cases of harm to others: The forensic physician is the one who decides the severity of the injury, the presence of the disability, and the degree of disability resulting from the harm.
- 2- Detection of poisoning cases.
- 3- Detecting cases of rape, pregnancy, abortion and other sexual crimes.
- 4- Examination of the dead bodies to determine the cause of death and the time of its occurrence.
- 5- Proving and denying paternity.
- 6- Identification of unidentified individuals and corpses or their remains.

Forensic physician characteristics

The forensic physician has special characteristics, including the following:

- 1- He should not be emotional, which leads him to siding with one of the parties of the conflict without objectivity and accuracy, since the accused seeks a lot of tricks and lies to deny his work or reduce its severity, while the victim often enjoys frankness and honesty.
- 2- He should be familiar with other branches of medicine to use in his work.
- 3- He should have a high ability of induction based on correct methodology in his work.
- 4- He should rely on all the evidence that is useful to him to determine the nature of the criminal act.



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Psychiatry

Anxiety and depression

Imam Ali said: “Anxiety is half of old age”¹.

And “Anxiety melts the body”².

And “Depression destroys the body”³.

He also said: “Get rid your concerns with the determination of patience and good certainty”⁴.

Psychiatrists came later and confirmed what the imam said after many centuries. Their studies indicated that depression and sadness play a major role in the occurrence of physical diseases, as it contributes to the production of certain secretions that play important roles in disrupting the various functions of the body.

Psychiatry and the concept of anxiety

Since the public health of the individual is physical and psychological, medicine will undoubtedly be physical (bodily) and psychological. From this point of view, we find that Imam Ali's interest was not limited to physical medicine, but rather exceeded it to include psychiatry as well. Psychiatry is one of the branches of internal medicine, concerned with the study of mental illness, analysis of its phenomena, and giving the necessary treatment for it.

This science is closely related to all other medical branches, in addition to its connection with a number of non-medical sciences such as psychology and sociology. New sciences have emerged that combine psychological phenomena with the actions of the

¹ Al-Firdaus V.2 P.75

² Uyoon Al-Hikam and Al-Mawa'iz: P.33

³ Ghurar al-Hikam wa Durar al-Kalim: Hadith: 609

⁴ Sharh Nahj al-Balaghah by Ibn Abu al-Hadid V.20 P.324

body. For example, we mention physiological psychology, neuropsychology, and endocrine psychology, all of which fall under what is known as psychophysical sciences.

Returning to anxiety and depression, we say that they are terms used to describe a mixture of pathological or non-pathological conditions in humans, which are dominated by the feeling of sadness. Anxiety and depression are a condition, or rather, conditions that have haunted man since time immemorial and still continue to this day.

Depression cases are prevalent in society in general, at a rate ranging between 13 and 20% of the population. And it affects all ages, but it is more visible in the third and fourth decade of life, and it is more prevalent among women, at a rate of three times what is in men.

Anxiety and the nervous system

In cases of depression, various imbalances in the levels of neurotransmitters responsible for regulating nerve impulses in brain cells have been observed. As noted, depression leads to a decrease in the level of serotonin. Famous people who suffered from depression include Napoleon Bonaparte, Isaac Newton, Winston Churchill, Harrison Ford, Van Gogh, Ernest Hemingway, and George H. W. Bush.

The greater the degree of depression is in a person, the worse his health condition is, and the imam said in this regard: “He who worries too much his body is sickened”¹, and that is due to the functional changes that anxiety causes in the natural work of the body. Thus, it leads to a lack of the efficiency of the bodily organs, so the individual becomes old before his time.

¹ Uyoon Al-Hikam and Al-Mawa'iz P.305

Some assert that depression is caused by a decrease in the level of serotonin or catecholamine, and it is worth noting that serotonin plays an important role in stabilizing mood, and it is associated with depression, suicide, pulse regulation, and agitation. Serotonin is a well-known neurotransmitter produced by the amino acid tryptophan.

It has been observed that dopamine decreases in some cases of major depression and rises in some patients with mania. Worries may be in the form of anxiety or depression that affects a person, and they generate a state of self-dissatisfaction, which leads to the occurrence of what is known as neurotic anxiety, which is one of the symptoms of various psychotic and neurotic diseases¹.

Symptoms of neurotic anxiety arise from an increase in the activity of the autonomic nervous system (involuntary) sympathetic and parasympathetic, and then an increase in the level of the hormones adrenaline, noradrenaline and some adrenal steroid hormones in both blood and urine.

Anxiety and hormones

The hypothalamus plays a very serious role in the occurrence of depression, as experiments have confirmed that the increased secretion of pituitary hormones (the posterior lobe) originally formed in the hypothalamus, causes cases of depression due to an increase in the amount of sodium in the body than its natural limit, which is caused by the action of the mentioned hormones.

Various studies in this field have confirmed the occurrence of depressive symptoms in about 40% of people with myxedema caused by the lack of thyroid secretion in adults.

¹ For more information on the topic, refer to the book "Endocrine Psychology" by the author

Because of the critical role of cortisol in response to stress or crisis, it is not surprising that it plays an important role in the human mood and behavior.

Many other studies have also confirmed the increase in symptoms of depression when changes in hormonal levels occur, according to the different age stages that an individual goes through, such as the period of puberty, for example, or the period before or during menstruation, or during the menopause period. Decreased noradrenaline has also been observed in patients with major depressive disorders.

These studies led to the discovery of different drugs that act on this level, which is to increase the amount of neurohormones to get rid of depression. In light of this, an important theory was developed by the scholar Seqtour in 1963, according to which some drugs such as Iproniazid, for example, work to inhibit the enzyme responsible for the oxidation of monoamine compounds, thus raising the level of the mentioned neurohormones in the brain and eliminating symptoms of depression. There are very many drugs used in this field and they are used according to the severity of depression, so they are classified into mild, moderate and severe drugs. This does not mean that all cases of depression respond to such drugs, as it has been noted that some of them are not affected.

In addition to drug treatment, Professor Prang stresses that the use of the hypothalamic hormone responsible for releasing the pituitary thyroid-stimulating hormone from the anterior lobe of the pituitary gland (TRH) leads to the treatment of depression quickly, and perhaps this is a strong link between what was said a little while ago about that the myxedema is accompanied by depressive symptoms that may be caused by the lack of thyroxine in the body, and that this deficiency occurs, of course, due to the low amount of the pituitary thyroid-stimulating hormone (TSH), which in turn

decreases when the amount of the hypothalamic hormone (TRH) responsible for releasing the mentioned hormone decreases, and therefore treatment for such cases is beneficial, according to Prang, when taking the mentioned hormone (TRH).

Dealing with anxiety

With his eloquent saying: “Get rid your concerns with the determination of patience and good certainty”, the Imam indicated the need to avoid falling into the trap of anxiety by staying away from their causes, through awareness, alertness, patience and determination in the face of adversity.

Often the causes of anxiety are urgent, so the person must be patient and considerate to understand the problems he is facing, and calmly think about how to get rid of them in a calm and gentle manner so that these problems do not leave their psychological and then physical effects, thus they harm the public health.

And if anxiety is pathological, the patient can be referred to a specialist doctor in order to help him get rid of it. From a biological point of view, this phenomenon must be pointed out, that there is a self-regulation that occurs inside the body when exposed to stress and adversity, as the internal environment of the body is exposed to changes in the levels of its components to stand in front of the emergency event in order to confront it. When distress occurs, the individual has a special physical response to it, the goal of which is to preserve life, and to return the individual to his normal physical and psychological condition.

The Canadian scientist Hans Seyle (1907-1982), from McGill University in Canada, called such response the General Adaptation Syndrome (GAS) in 1941. Seyle defined this syndrome as pathological symptoms that appear on the individual when exposed to various types of adversity. He explained that the mechanism of

the link between stress and the syndrome is through the nervous influence of that intensity and affecting the hypothalamus to secrete its chemical factor known as (ACTRF), which goes to the pituitary gland through the pituitary portal system to affect the cells of the anterior lobe of the aforementioned gland to release its adrenal cortex stimulating hormone (ACTH), which heads towards the adrenal cortex, urging it to secrete its hormones responsible for the metabolism of carbohydrates, and this works to show the symptoms leading to the formation of the aforementioned response.



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