Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

Quarantine and its Impact on the Environment

Zahraa Ahmad Hussein[1], Marwa Abdelsattar Shehab[2], Abdulkader Salam Abdulkader[3]

Abstract

Quarantine is a common public health strategy used to help prevent the spread of highly contagious diseases. According to the Centers for Disease Control and Prevention, quarantine is a preventive measure that separates and restricts the movement of people who have been exposed to an infectious disease to find out whether they are sick or not. Some positive phenomena have been observed on the environment, varying from place to place. There has been an increase in air quality, and the satellites have recorded a significant decline in toxic gas emissions. The positive impact has been extended to include water. In addition, noise has been reduced due to the disruption of the movement of trains, buses and cars. Other positive effects included clarifying the importance of a healthy lifestyle such as exercises, healthy food, staying away from smoking and paying attention to cleanliness, all of which are effective factors in reducing the spread of the epidemic, in addition to promoting a sense of responsibility towards society, dealing positively with crises, flexibility in changing the routine of life and leisure time, learning to refrain from things that people used to and disappeared with the current situation, in addition to contributing to the return of the spirit of humanitarian cooperation and teamwork..

Keywords: *Quarantine, Environment.*

Introduction

Quarantine [1] it is a health system that determines the activities or movements of healthy people or animals who have been exposed to a source of an infectious disease during the period of infection for a period not exceeding the incubation period of the disease agreed upon by countries around the world and set up within their borders at their various ports of entry (land, sea and air). Its essential role is to maintain public health, protect others and the environment from transmission of infection and prevent the spread of deadly epidemic diseases subject to global health regulations (coronavirus diseases) that move from their centers of settlement to free countries through international traffic of individuals, goods or various means of transportation [2].

Modern medicine has shown that infection has factors and causes that people should identify and take care of as follows:

- Pathogens are transmitted through the contaminated environment: these are different types, including special germs such as plague bacilli, vibrio cholerae and leprosy bacilli, including animal parasites such as scabies, or plant parasites such as dermatophyte parasites, including invisible agents or leprosy, such as flu fever.

- The source of infection in communicable diseases in humans is often humans themselves, such as leprosy, or some animals that live around humans, such as rats and feral bites, where they could be the source of the plague (3).

- These agents come out of their reservoirs through secretions or extractors. Their methods of exit vary according to different types of communicable diseases and their different characteristics. These methods are the pulmonary route as in tuberculosis, the intestinal route as in cholera and typhoid, and the urinary route as in schistosomiasis. Sometimes lesions are visible on the surface of the body, facilitating the spread of infection as in fungal skin lesions and scabies.

[1] Department of Islamic Belief and Thought, College of Islamic Sciences, University of Baghdad, Email: zahra.a@cois.uobaghdad.edu.iq
[2] Department of Arabic, College of Islamic Sciences, University of Baghdad, Email: marwa.a@cois.uobaghdad.edu.iq
[3] Department of Islamic Belief and Thought, College of Islamic Sciences, Universjty of Baghdad, Email: abdul.q@cois.uobaghdad.edu.iq

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

- The means of transmission of the pathogen from its source to its new destination are divided into three sections:

Directly from a sick person or a carrier of the bacterium, even if they are not sick, to another person who is ready for infection, as in the case of influenza.

Indirectly through the environment, contaminated water, food or goods, as in cholera.

By means of insects, this medium can be injected as an indirect means. Fleas transmit plague (4) and lice transmit typhus (5).

The entry point of pathological factors into a healthy body includes all its parts such as skin, mucous membranes, methods of breathing, digestion, reproductive methods, blood and placenta (6).

The final condition for infection to occur is the willingness of a person to accept that agent. If a person has a good immunity, or lives in a healthy environment, he might not get affected by the disease. But in case all factors of an infection are present, and the body's immunity is not sufficient to stop the germ, paralyze its work or destroy it, and enable the germ to grow and reproduce, a communicable disease occurs, and the body takes its means of defense to fight that germ, resulting in a relatively short and prolonged battle in chronic diseases (7). Thus, it is believed that quarantine has a significant impact on environmental pollution and the transmission of epidemics.

A Brief Review

Abu Dawud said: Al-Qa'nabi narrated to us, Abdul Aziz narrated to us, meaning: Ibn Muhammad, on the authority of Al-Ala', on the authority of his father, on the authority of Abu Hurairah, who said: The Messenger of Allah (peace and blessings of Allah be upon him) said: "There is no contagion, nor vermin, nor annihilations, nor jaundice."

This means that it is of the reasons of diseases.

An infection is the transmission of disease from a sick person to a healthy person. It is said: So-and-so infected so-and-so because of his character, or because of an illness he had, or because of scabies. And neither jaundice nor annihilation are indeclinable.

The teachings that serve society in particular and the environment in general are characterized by a logical and scientific approach. Some of those will be mentioned in this paper which are taken and deduced from the in this section as follows:

- Modern science has come to destroy the beliefs of ignorance and build a healthy environment for humans based on individual health, the strength of certainty, and the avoidance of illusions and imaginations that tamper with minds.

- This is a denial of what they believed was that the problem was passed by its owner to others, that it affected its nature, and that the environment was a source of healthy living.

- denying what used to be believed in the past that disease and disability were contagious in nature.

- It is certain that some diseases are transmitted from the patient's body or the germ carrier to the body of the healthy person due to contact between them through a contaminated environment that transfers germs; these are small organisms that cannot be seen with the naked eye. Germs are transmitted through different methods, such as air without contact, some are transmitted by contact with the patient or by contact with his mucus, some are transmitted through contaminated food and drinking, some are transmitted using the patient's tools, and some are transmitted through

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

contact with the patient's blood (needles contaminated with blood or germs), or sexual contact that cause significant environmental pollution.

- Scholars have agreed upon (that it is permissible for a patient to go to his work, or do a certain activity, while authorizing people not to shake hands with him or mix with that reason, public interest over emotion, and scientific logic over compliments) (8).

The Principle of Quarantine in The Light of Modern Environmental Conservation Science

The quarantine law was legislated more than fourteen years ago because humanity has only known its importance and danger in the era of science and technology in the twentieth and twenty-first centuries. It is unable to fully apply and control it even after knowing its danger to the environment and its health, economic, social and political dimensions because the content of its teachings and laws is devoid of faith in God and the Last Day. Its importance increases every day due to the emergence of many unknown epidemics in our ancestors.

The Importance of Quarantine

Dr. Mohammed Ali Albar (9) says: "Infection between medicine and Prophet Mohammed Hadith (peace be upon him): "Quarantine is one of the most important means of combating the spread of epidemic diseases. It clearly shows that the principles of quarantine are the most specific. They prevent people from entering a town affected by the epidemic and prevent the people of that town from leaving it." (10)

As for preventing healthy people from entering the epidemic land, this is a concept imposed by reason, logic and the instinct of survival. However, (preventing residents of a town affected by the epidemic from going out, especially preventing healthy people, seems difficult to understand without extensive knowledge of modern medical sciences. Logic and reason require that a healthy person who lives in an epidemic environment, flee from it to a healthy environment in order not to get infected with the epidemic).

Reasonably thinking would suggest that a healthy person should not wait in an epidemic place, why would anyone wait for an infection or death even to come? Fleeing the epidemic and death is imposed by the instinct of survival, as well as by logic and reason.

However, modern medicine has another theory about this, it says that a healthy person in the epidemic area may be a carrier of the microbe. Many epidemics affect many people, but not everyone whose body enters the microbe becomes sick. Many people carry disease germs without showing any of the effects of the disease, rather they seem healthy in some cases. Yet they might be able to transmit the disease to healthy people.

Moreover, there is the (Incubation period of microbe), or what is called (incubation time), which is the time that passes from the entry of a microbe into the body until the symptoms of the disease appear. However, during this incubation period, a person does not seem to suffer from any disease. After a period that may be prolonged or shortened, depending on the type of disease and the microbe he carries, he shows the symptoms of the disease inherent in his body.

As is known, the incubation period of influenza, for example, is one or two days, while the incubation period of viral hepatitis is (15 to 35) days [12], and may extend to (6) months, and the tuberculosis microbe or (tuberculosis bacilli) [13] may remain hidden in the body for several long years without causing any effect. After that period of time, it does not take long for it to spread in the body and tuberculosis bacilli (germs) can live for weeks or months in dry sputum [14].

There is no difference between a patient and a carrier in infection. Both ((endanger the environment without him or others feeling)).

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

Third: the pillars of infectious diseases and infections are a interrelated chain. According to modern medical scientists, the three pillars are:

- The source of infection.
- Means of transmission.
- A person's immunity and susceptibility to infection [15].
- We add to this the fourth pillar that dominates the rest of the mentioned pillars, which is: the will and desire of Allah, the Highest.

Infections and their Source

As for the sources of infection, they are multiple, the most important of which are:

- The patient: This occurs from an infected person, or in nurseries, or in convalescent homes [16], so the patient transmits germs from one place to another, and from himself to another person, leading to environmental pollution [17].
- Germ carriers: Any person who carries the germ but is healthy, and does not show symptoms of the disease.
- Animals and birds: they are infected and carrying the germs of an infection, and the environmental pollution is transmitted from them to humans in one way or another.
- Soil: The tetanus germ and gas gangrene [18] (death) [19] live in the soil, especially in places where there is a lot of animal dung, so if a person is injured, these germs enter his body, causing serious diseases.

There worth noting that germs are not the only ones that cause disease and infection and that there are unknown causes that control the aggressive nature of a bacterium, turning it into a peaceful nature. Or it controls the peaceful nature of that bacterium and turn it into an attacker. For example, the polio virus enters the child through contaminated foods and goes to the intestines. There, the lymph glands receive it and attack it. They identify it accurately. This is recorded in a group of lymph gland cells. The child does not appear to have any disease but forms immunity. It is through this information stored in the cells of the lymph nodes, and the substances that can repel these viruses if they attack again in the future. These viruses infect another child and cause him to be paralyzed. The viruses are the same: there is one thing: good for this and grace for that [20].

As well as a bacterium (Meningitis is known to be severe. It enters the nose, mouth and pharynx and stays for a while to multiply. It then invades the blood and meninges (membranes) surrounding the spinal cord and brain and attacks its severe attack, which often leads to death [21]. This virus, with its aggressive nature, suddenly changes its nature in some people, remaining calm and peaceful, but when it is transmitted from that person to another, it returns to its previous state of defiance and aggression. Indeed, it may remain in that person's mouth for a long time without causing any effect, but suddenly it turns from peace and harmony to attack and aggression. Some may attribute this to the difference in the strength and weakness of a person's immunity against germs, but immunity and the ability to resist germs are based on unknown reasons. Immunity is not based on the visible strength or weakness features of a certain person, or what shows in their medical examination. In some cases, germs might cause death to an individual who is known as healthy and strong.

But more than a thousand years and four centuries ago, the Noble Messenger spoke about the truth in its deepest dimensions, in a wording that is close to the mind... and it is connected to eternity, in a bouquet of

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

his teachings (PBUH) and without confusion or hesitation, he repeats and confirms that "There is no contagion, nor vermin, nor annihilations, nor jaundice, and flee from the leper as you flee from a lion".

That saying referred that contagion alone, or germs alone are not the cause of the disease, and there are other causes in the hand of God Almighty, if He wills, He will divert them, and if He wills, He will gather them, then there will be the disease and there will be the contagion.

Types of Immunity

Immunity is divided into two parts:

First: non-specific immunity (non-specific natural resistance): this immunity does not require qualitative identification of the foreign organism. The factors of this type are as follows:

- Specific or inherited disease. People do not get chicken pox.
- 2. Major ethnic differences.
- 3. Age, sex, and hormones have an effect on nonspecific immunity.
- Mechanical and physical obstacles such as skin and mucous membranes.
- Biochemical barriers in blood, tissue fluids, and secretions.
- Leukocytes, lymphocytes, etc.

Second: Specific or acquired immunity:

This type arises after birth as a result of exposure to germs during lifetime. It is acquired through the contaminated environment in which it arises either accidentally or through vaccination with inactive germs.

If the body is exposed to an external antigen (foreign body) or germ, the body's natural immunity takes over the task of resistance and response first. If the germ breaches this system and reaches the blood, the acquired immune system takes over the task of defending and responding after that.

Methods And Means of Transmission of Infection Causing Environmental Pollution

As for the methods and means of transmission of infection, they are many, and infection with the disease occurs either directly, indirectly, or together, and among these means:

Direct transmission: This occurs by the presence of a close connection between the sick person, or sick animal and the healthy person, without a third intermediary between them, and this is done through following means:

Direct contact: through touching the patient, kissing the patient, sexual contact, or by animals as in the case of rabies.

Droplets and sprays: through droplets in the nose and throat, and this happens during talking, sneezing, and coughing, so the spray comes out loaded with germs that infect people in contact with the patient as in the case of meningitis, pneumonia, colds, etc.

Placenta [22]: this happens between the mother and her fetus via the placenta as in (hereditary syphilis) or congenital deformities that occur in German measles.

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

Or through indirect means: such as in the presence of a third source that transfers the sick germ from the source of infection to another person)) through one of the methods listed below:

By insects: it happens mechanically when the hose is extended to the human body to take food. At the same time, it will release sick parasites to the body (as is the case in malaria) or by transferring the microbe on the wings and feces of flies, or by placing eggs on the skin with some sensitive materials to the body in order to force humans to scratch the skin and thus introduce the microbe into the body, as is the case in yellow fever.

Through foods and drinks: the disease can be transmitted through the way humans eat the following:

- Contaminated water carries several diseases, including gastroenteritis, typhoid, cholera, dysentery, etc.
- Contaminated milk: This is either through a sick animal such as Malta fever, or as a result of contamination before eating it.
- Food items: foodstuffs can be contaminated at any time, from their presence in the field before they are picked until they are eaten, either fresh or cooked.
- Clothes and other items: These may be contaminated by a sick person, as is the case with clothes, furnishings, and other items used in food such as spoons, forks... etc.

Air: Lots of contagious diseases are capable of being transmitted from one person to another through the air, where bacteria or viruses present in the air enter the body and cause diseases, such as tuberculosis, smallpox, and diphtheria.

Germs enter the human body through several routes, including:

- Through the respiratory system: where germs enter the lungs or blood through this route, when a healthy person inhales air contaminated with germs surrounding the environment and spreads to the body, such as: diphtheria, mumps, tonsillitis, bronchitis, pneumonia, meningitis, influenza, etc.
- Through the digestive system: This occurs when a person eats contaminated food and drinks contaminated liquids, for example: typhoid fever, cholera, dysentery of both types, polio, viral hepatitis, etc.
- Through the skin and mucous membranes: This occurs through the bites of lice, fleas, and mosquitoes, the germ is transmitted directly to the blood and generates the disease.
- Through friction and contact: through touching the infected skin by other healthy skin, as in venereal diseases and dermatology.
- Through injection, or blood transfusion such as viral hepatitis and AIDS. ((Things are judged by their intentions) [23].

Through the implications and concepts of the mentioned rules, the humanity has production can be depended, in other words what has been created, invented, tested, adopted, and scientifically proven of means that serve its interests now can be adopted.

As is known that the superiority of means is based on the superiority of intentions [24], and among those superior and effective means are serums and vaccines.

Communicable Diseases

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

Communicable diseases may affect humans only, humans and animals together, or affect animals only. These diseases are divided into three groups:

The first group of infectious diseases is those disease that should be reported immediately and in the fastest possible way. In this case, isolation is mandatory in a place allocated by the health authority [25].

These diseases are classified as diseases subject to international health regulations (global quarantine procedures) about which the Ministry of Health informs countries and the World Health Organization (WHO)). They include:

((Plague disease.

Hepatitis (Cholera.

Yellow fever.

Smallpox epidemic.

Acquired Immune Deficiency Syndrome (AIDS).

Acute haemorrhagic fever [26].

The second group is the group of communicable diseases that should also be reported immediately and in the fastest possible way. These diseases, which are considered diseases subject to health prevention by the World Health Organization, include:

Polio.

2. Malaria.

Influenza such as bird flu and swine flu.

Typhus fever transmitted by lice.

Recurrent fever.

The third group includes reporting about medical injuries regularly when they occur, by the nearest practical method and are included in weekly and monthly reports, noting that when an epidemic wave occurs or a strange and undiagnosed condition or conditions arise, immediate reporting is made as soon as possible.

Conclusions

- It is essential to give more attention to preventive medicine in order to preserve a healthy and sound environment. However, medicine alone cannot heal all diseases, where some illnesses remain till the current time with no cure or without a drug. For example, viral diseases like Polio, which often end in paralysis of one of the lower limbs, i.e. permanent disability. This disease, which has no cure, is very easy to prevent by taking the usual polio vaccine. Among the diseases that have no cure is also viral hepatitis of both types: A and B, especially B, which may cause death. This disease has a vaccine to prevent it that is available. Among these diseases is also AIDS, the causative agent of which is a viral fever, and it is a fatal disease, and there is no cure for it and there is no vaccine to prevent it, and the procedure followed to prevent it is to isolate the patient completely.

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

- The second motive is to reduce the economic cost, which is a large cost in therapeutic medicine, and a small cost in preventive medicine. The economic cost includes the prices of treatments that a person takes, as well as the interruption of work due to the disease, or its results.

- The third reason: is the fear of the effects of diseases on the individual and on society. An example of this is polio, which leaves a permanent disability in the infected person, that has negative effects on the individual's physical health, and on the individual's psychological health as well, and it also has negative effects on social health in general.

- Also, even in diseases that have a cure, the recovery rate is not 100%, and the disease may end with complications or negative effects on the individual, while the recovery rate by preventing the disease is approximately 100%.

- The therapeutic aspect has exhausted and worn out human bodies. Despite its great benefits, there may not be a drug without side effects or negative results. These warnings are found on the printed leaflets attached to all medications, to warn and clarify the contraindications and side effects of that medication. This is in addition to the appearance of dangerous results for some medications after using them for a long period and before they are stopped.

Recommendations

Although quarantine is the most important measure in preventing epidemics and contagious diseases, there are a group of other measures that fall under this title: quarantine, prevention of epidemics, and control of the epidemic if it occurs, which are:

- Sterilizing the needs and supplies of the infected, their clothes, sterilizing their waste and disposing of it properly, and what is contaminated by these wastes, and sterilizing the room in which the infected person lives.

- Health workers, and anyone who has come close to the patient or entered his room, are considered exposed to the disease. Therefore, they must be equipped with antibiotics, and they must wear protective coats, gloves and masks, and whatever can be disinfected from their body and clothes must be disinfected.

- Vaccinate those in contact with patients, if there is a vaccine for them.

- exterminate rats, mice, fleas, and pigs, and avoiding direct or indirect contact with dogs and other insects that transmit the disease, as well as ending the life of infected animals and not eating their meat.

- Monitor anyone who has been exposed to a suspected disease for a period of (14) days or more. For example: the incubation period for chickenpox is (15-19) days, hence, it is necessary to follow up on the person who has been in contact with an infected person even if that contact occurred on the nineteenth or twentieth day.

- Carrying out vaccination and inoculation at their times and scientifically scheduled seasons, and carrying out regular serious campaigns for this, and forming follow-up committees for this purpose.

Journal of Ecohumanism
2024
Volume: 3, No: 8, pp. 4650 – 4658
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i8.5113

References

Mukhtar Al-Sihah by Al-Razi, p. 167. Plague and drought and their impact on the environment in southern Syria (Jordan and Palestine) during the royal era, Youssef Darwish Ghawanmeh, a research published in the quarterly Sciences magazine (Damascus: 1983 AD): Issue 13-14 / p. 234.)

Science and Medicine in Europe, Edward, Tom, translated by: Dr. Mustafa Muhammad, 3rd ed., (Dar Al-Ilm Beirut, 2007 AD), (1/55).

Pollution and Environmental Protection, Dr. Muhammad Munir Hijab, p. 149.

Encyclopaedia of Common Diseases, Zeinhom Sameh, Osama Publishing House, Jordan, 1999 AD, 67.

Cosmic disasters and their impact on the course of the universe, Claus Frank, translated by: Ibrahim Fahmy, World of Knowledge, Kuwait, 1990.

Sexually transmitted diseases, their causes and consequences on Islamic society, Suleiman Abdul Karim, 1st ed., Dar Al-Arabi, Algeria, 1991.), Women's diseases and methods of treatment, Al-Hamawi Khalil Hassan Ibrahim, 1st ed., Dar Al-Kutub Al-Ilmiyyah, Beirut, 1999.

Medical care for humans, Al-Khawaldeh Muhammad Izz al-Din, 1st ed., Dar Baidaa for Publishing, Jordan, 2011.

Environmental pollution and diseases, Abdul Hadi Hassan, 1st ed., Dar Alaa for Publishing, Jordan, 2017, p. 33

Muhammad Ali al-Bar, born: December 29, 1939, is a consultant in internal medicine and advisor to the Department of Islamic Medicine, King Fahd Center for Medical Research, King Abdulaziz University in Jeddah / Royal College of Physicians of Edinburgh, and the Royal College of Physicians, see: From Wikipedia, the free encyclopaedia.

The Scientific Miracle in the Prophetic Sunnah, Dr. Saleh bin Ahmed Reda, 1/547.

The Pioneer in Internal Diseases and Fever by Muhammad Muhammad Abu Shuk, p. 6.

Internal Diseases, by Dr. Hussein Thabet Al-Orfali, 2/19.

Tuberculosis: It is caused by tubercle bacilli. It is a contagious disease and its epidemiological reality is known before the germs of the disease were discovered by Robert Koch in 1882. In addition to the respiratory system, tuberculosis affects most organs of the body. It affects bones, kidneys, brain, digestive system, etc. The most important sources of infection are: the spitting of tuberculosis and the milk of cattle infected with tuberculosis, such as cows. The ways of infection are: the respiratory system by inhaling air in which germs are suspended, and the digestive system by drinking the milk of cattle infected with tuberculosis.

Medical Microbiology by Dr. Mahdi Al-Samak, p. 81. The pioneer in internal diseases and diets by Dr. Mohammed Mohammed Abu Shouk, p. 144

Public health and health services for students of Iraqi higher health professions institutes, a group of doctors, Al-Hurriya publishing, 1983, 2/5, and primary health care: Dr. Rushdi Qatash, Dr. Abdulmajid Al-Shaer, Dr. Essam Al-Safadi, p. 73.

Al-Raed in Internal Medicine, Dr. Muhammad Muhammad Abu Shouk, p. 6, "The role of recovery: It is the period that comes after the symptoms of the disease are gone until the patient recovers his full strength. During this period, the temperature is normal and he is free of symptoms and signs, but he is in a state of general weakness."

Endemic and communicable diseases, dr. Hussein Al-Urfa Li, p. 3. The pioneer in internal diseases: Dr. Muhammad Muhammad Abu Shouk p. 1.

Medical Microbiology by Dr. Mahdi Al-Samak, p. 89,92.

Al-Hatti Medical Dictionary, p. 267.

Child Infectious Diseases and Vaccinations, dr. Mahmoud Al-Haj Kassem Mohamed, p. 16.

Lisan al-Arab by Ibn Manzoor, article (Hawl), 11/184. The end is in Ghareeb al-Hadith and al-Athar by Ibn al-Atheer, 2/986.

Environmental issues from an Islamic perspective: Dr. Ihsan Hindi, pp. 140-141

Similarities and isotopes in Hanafi jurisprudence: Zaineddin ibn Ibrahim, known as Ibn Njaim al-Hanafi (p. 970 AH). Investigation and presentation by: Dr. Muhammad Mutiy Al-Hafiz, Dar Al-Fikr, Beirut, Lebanon, 4, 1426 AH, 2005, p. 1/73

The minor rules of Izzz ibn Abd al-Salam, p. 140.

The Simple Guide to Preventive Measures for the Control of Communicable Diseases by Dr. Salah Eddin Ahmed Rahim, 1987, T1, Asia Printing and Publishing Company Limited, People's Press.