ORIGINAL

The cryonic medical application from the perspective of Islamic jurisprudence and ethics; a review of theories

La aplicación médica criónica desde la perspectiva de la jurisprudencia y la ética islámicas; una revisión de teorías

Laila Fakher¹, Rajab Akbarzadeh², Mohammad Reza Zamiri², Ahmad Hossain Fallahi², Sayed Morteza Mosavi³, Sayed Mohamad Saeid Mohamadi⁴

 Ph.D Student of Islamic Education, Payame Noor University, Qom, Iran 2. Assistant Professor, Department of Islamic Education, Payame Noor University, Qom, Iran 3. Ph.D of Islamic Education, Payame Noor University, Qom, Iran 4. Master of Quranic Sciences, Mofid University, Qom, Iran

Corresponding author

Rajab Akbarzadeh Assistant Professor, Department of Islamic Education, Payame Noor University, Qom, Iran E-mail: rajab.akbarzadeh@yahoo.com Received: 30 - I - 2021 Accepted: 28 - IV - 2021

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Abstract

Objective: In studying new phenomena, it is necessary to consider their moral and religious aspects. Because everyone has accepted ideas and principles in their thoughts and minds, all of them are based on external principles that are common. As a golden rule in all divine and even non-divine religions and sects, it is acceptable and defensible that whatever you do not like for yourself, do not like for others. However, whether can we confirm or reject the cryonic discussion in terms of moral aspects? The objective investigation of this subject is from the perspective of Islamic ethics.

Methods: In this research, it has been attempted with expert studies in published articles to examine whether, according to the teachings of Islam, can be found a confirm or reject for the cryonic discussion.

Results: Since Islam has a moral school of realism and assesses everything on a predetermined basis, this matter will be possible, and perhaps in non-Islamic thoughts and even some Islamic sects due to the unrealistic nature of ethics, cannot be obtained the verdict of this issue. At first, this argument is to be raised that the meaning of death is the limits of human authority over the corpse after death; finally, the reasonable possibilities in this field and its attention are discussed.

Conclusion: In the end, according to what is stated in the fundamentals of Islamic ethics, it has been ruled that this subject, if it complies with the conditions and regulations, has no conflict with Islamic ethics.

Keywords: Cryonics, cryopreservation, medical, ethics, Islam, death.

Resumen

Objetivo: Al estudiar los nuevos fenómenos, es necesario considerar sus aspectos morales y religiosos. Como todo el mundo tiene ideas y principios aceptados en sus pensamientos y mentes, todos ellos se basan en principios externos que son comunes. Como regla de oro en todas las religiones y sectas divinas e incluso no divinas, es aceptable y defendible que lo que no te guste para ti, no te guste para los demás. Sin embargo, ¿podemos confirmar o rechazar la discusión sobre la criogenia en términos de aspectos morales? La investigación objetiva de este tema se realiza desde la perspectiva de la ética islámica.

Métodos: En esta investigación, se ha intentado con estudios de expertos en artículos publicados examinar si, de acuerdo con las enseñanzas del Islam, se puede encontrar una confirmación o rechazo para la discusión criónica.

Resultados: Dado que el Islam tiene una escuela moral de realismo y evalúa todo sobre una base predeterminada, esta cuestión será posible, y tal vez en los pensamientos no islámicos e incluso algunas sectas islámicas debido a la naturaleza irreal de la ética, no se puede obtener el veredicto de esta cuestión. En primer lugar, se va a plantear el argumento de que el significado de la muerte son los límites de la autoridad humana sobre el cadáver después de la muerte; finalmente, se discuten las posibilidades razonables en este campo y su atención.

Conclusiones: .Al final, de acuerdo con lo establecido en los fundamentos de la ética islámica, se ha dictaminado que este tema, si cumple con las condiciones y regulaciones, no tiene ningún conflicto con la ética islámica.

Palabras clave: Criónica, criopreservación, medicina, ética, Islam, muerte

Introduction

Not much research activity has been done regarding cryonics, and since it is an emerging issue, but cannot be obtained any information from ancient scientific texts. Therefore, to obtain new and religious information, it has been paid to study the opinions in this regard. There is no research history in medical ethics in cryonics, and this research is considered the first step in this category. The following research subjects have investigated this issue from the perspective of Shiite jurisprudence and jurisprudential religions^{1, 2}.

Although we have a better Latin resource situation, none of them have dealt with its moral aspect from the Islamic point of view. For example, the article "Seeking Life After Death" by David Shaw, University of Glasgow 2009; in this article it has been paid to the cryonic process, and the arguments put forward by proponents are included the potential for community benefit, the ability to cheat death for at least a few years, and the prospect of immortality if resuscitation is successful.

The article" Immortality Technology"2012; Brain on Ice, Cambridge King's College, which has studied the scientific and medical ways which through of them can treat various diseases.

The article" Cryopreservation technique" Merkel, Coyote Hilljah; Which it has paid to explain cryonics from a scientific aspects and expresses that icy air is a method of stabilizing the situation everyone who is incurable; So that they can be treated with medical facilities and care that will probably be available in the future.

For the lexicography of this research, it is necessary to say that "ethics" in the word is the plural of the word "Temper" and has the same root as the word "Creation", with this the difference that the word "Creation" is used about the face and appearance form and the word "Temper" refers to the mysterious character³.

Moreover, the meaning of "Islamic ethics" refers to the rules of the practical intellect, which expresses the requirements of intellect in the position of action and determines the correct way of doing things that are guided the human from the aspect of the moral agent so that act them requires the human perfection and happiness⁴.

Regarding the principles of Islamic jurisprudence and ethics and the similarity of these two sciences, it should be said that both of these sciences provide direct and infallible knowledge of religion to the representatives of God on earth, namely the Infallibles (peace be upon them). Both of these sciences consider the sense, intellect, and revelation as the means of acquiring knowledge;4 both of them recognizes material, immaterial, and rational matters that there is also the accessible possibility to it, and both of them also consider possible the acquisition of useful knowledge only in this way, that each tool of knowledge is used correctly and about its source. In other respects, these two sciences have many similarities, including considering the legislation of the rulings in accordance with the right and truth and human interests. They consider the tasks according to reality and perform them as comfortable and in harmony with nature⁵.

However, concerning the subject of cryonics, we should also mention in this report that a girl was asked the High Court in London to allow her to freeze her body after her death so that her hopes for a long life in the future would not be destroyed. This girl, who did not want to reveal her name for legal reasons, was acquainted with cryonics through the Internet in the last months of her life. The judge of the High Court and accepting her request was ruled that the trial trend should not be issued until the girl's death. The judge agreed with this action for the first time was performed after passing a legal process⁶. This young girl died on November 17, 2016, and the court had banned news coverage of this event⁷. The lawyer of this British teenager says:" She could convince the court and me that she had reached the necessary maturity and capacity to make such a decision"7. This teenage girl wrote to the judge:" I think that my body freezing based on cryonics method will give me a chance to recover and come back to life in the future, maybe hundreds of years from now." I think my disease treatment will be discovered in the future, and the futurists can revive me, so I want to have this opportunity. This is my wish⁸. The judge had acknowledged that to prevent undue pressure on the sick girl, the news of this case and the course of the trial proceedings remain confidential until her death.

The father of this girl, who also has cancer, was opposed her. In order to prevent this request, execution was referred to court, because he believes that even if her daughter is to be cured and wakes up again in 200 years, she will have no relatives and will remember anything and be placed in an unpleasant situation, especially that she is a 14-year-old girl without a family, and after revive may not be able to adapt herself with the conditions of the United States⁷.

The father says: "I believe that they are using false promises to abuse those who fear the death and are vulnerable from the people." None of them do think that cryonics ever be successful. I am a rationalist, and I have confidence in my medical perspective. When I asked that if there was this probability even one in a million that my daughter come back to life again, they could not give the positive answer"⁸.

The corpse of this girl after her death was sent to Michigan in America in a container filled with dry ice so that it is to be placed in a tank with computer-controlled temperature and is frozen by liquid nitrogen at the cost of about 37000 thousand Pound which this girl's grandparents paid. The body will eventually be placed in a cryopreservation tank at minus 196 ° C temperature⁹ for long-term maintenance⁶.

By reading this report, the human is first affected by the emotional and human nature of the daughter and father; A girl who has cancer and with a brief acquaintance with bio-freezing and under the influence of the possibility of resuscitation in the future persuades the lawyer and the judge to freeze her body after death and a father who, like many people¹⁰ believes that her daughter deceived the false promises of cryonic companies and they have abused her child. She, who also has cancer, does not believe in resuscitation, especially since the Cryonics Company managers have not guaranteed her daughter's resuscitation.

Several points can talk about this subject. Should we accept the promise of this girl's father? This issue can be examined from two points. One point is that we still have no trust regarding the outcome of this event. This is only a probability. Moreover, with such costs that some have counted, this probability is not amplified¹¹, and the second point is that if after 200 years it is found a cure for her daughter's illness, she will be in a world without relatives and will be alone. Besides, the girl's father accuses cryonic companies of abusing his daughter in the immortality debate.

Should we accept mother and daughter's promise that they have sought what is known as immortality and, based on the same low probability, have chosen cryonics? To investigate this issue from the Islamic ethics perspective, it is necessary to see this issue's jurisprudential principles from different aspects. And for this reason, we must first know to what in the definition of death Islamic jurisprudence

Definition of death in Islam

Is what refers to it in the original jurisprudential books "Legal death"¹² or get out of the soul from the body, so that there is no return for it^{15, 38}. It is said that whether it is included the topic of cryonics or not. Moreover, if not, what extent control do we have over our bodies before we die? If it is ok, we need to see that after death, how can we control our bodies. (Which, of course, we will address in a separate section).

Some of the jurisprudence books say:" "The signs of the difference between life and death or between living beings and inanimate objects, it is one of the things that is innately understood the living being breathes, eats, grows, reproduces and moves"¹³. Moreover, after stating this issue, although some people are considered death as an unknown from some aspects, ultimately life is the opposite of death³⁶, and even dictionaries have introduced it as the opposite of death³⁷, while some of them consider the five cases to conclude the death debate." Human life has five categories; *First*: Conscious human life, Second: Unconscious human life, or in other words, physical life, which is not based on consciousness and sense and movements, such as sleep state or drunkenness or the use of sleeping pills, of course, considering the health of the central part of the brain, which becomes like plant life that its feeding and growing and breathing is without sense. Third: The life of the organs outside the body after death, which is done under intensive-care conditions. Fourth: The life of the body's stem cells; Fifth: The single-cell life that takes place in the lining of the uterus and grows into multiple cells to make the body organs"¹³.

Moreover, after stating these subjects, it says: "Human life is the same, conscious and unconscious life (The first and second part of life) until the soul is not separated from the body. However, the life of some organs of the body and the like after death is not called human life"¹³.

By this definition, it is possible to declare the cases that have become involved the brain death, or similar cases, in fact, a dead person, because their human life does not exist¹⁴. That according to jurisprudence opinion, a dead person is said to a person that according to custom, the soul has been separated from her/his body^{39, 40} and brain death is known as someone whose brain has been dismembered or whose head has been separated⁴¹ and from the point of view of medicine science., brain death is equal to the death of a patient⁴².

This topic is more straightforward; because official death has been announced, but definitive death is not. Moreover, our discussion in this article is about the whole body, not the cases that cryo-preservation only one part of the limbs.

Some other Islamic thinkers in the expression time of dying and others' duties say about the deceased: "What is known among the religious man is that the death is the time of separation of the soul from the body. People say about this field that the king of death pulls the soul out of the human head, so the first part of the body that becomes soulless is the legs, and then the rest of the parts until it reaches the head, and the last part which dies is the head. In the parts of the head, the first part which the soul separates from it, the mouth and the tongue, then it reaches to the eyes and after that, the ears are died and then it goes up to the brain. Furthermore, after that, the soul generally separates from the body. Furthermore, this graduation [Which is common in the words of the people] can be found in the noble tradition of the Prophet and some of the sermons of Nahj al-Balaghah."15.

Of course, this does not mean that the soul, which there is the soul in the legs, is transferred to the rest of the body, and the soul of the body is transferred to the head. Because the soul of each organ of the body is unique; And even if it is transferred, it will not be useful in the survival of that organ¹⁵.

Then he introduces death as the separation of the soul from the body and distinguishes it from life and the state of life that if the soul is in the body, it will affect the body, stimulate it, and reciprocally is affected from the body. After death, this relationship between soul and body will be disconnected¹⁵.

With this definition, it is possible to imagine a situation in which the cryonics argument, official death is far from definitive death, and at the same time, it is possible to carry out an activity in cryo-preservation of a person.

Of course, according to this quotation, the only problem is that until the last part of the body is not empty of soul, there is no death or die and cannot be considered a person as a dead person. Regarding brain death, religious thinkers also say that the survival or death of a person depends on the view of custom, and whatever the community recognizes about a person is associated with the criterion of action¹⁶, as mentioned.

In addition to the questions and answers that have been emulated from the religious authorities in this regard, it has also been said whether it is possible to have the organs of a person who has suffered brain death (and medically, there is no hope for his survival, but some organs like the heart work for a while) transplanted to a patient who is needed? (Considering that if they are waiting, they may no longer be linked)

His answer to such a question is that because at the same time that the heart is working and the brain is dead, a drug may be invented or discovered that activates the brain (Although this issue may be certainty in many populations, this issue may be uncertainty in some people and individuals; because the finding of some drugs that are invented or discovered for some diseases is instantaneous) therefore, with this possibility, it is not permissible¹⁷.

The limits of a human's authority over his/her corpse after the death

In the case of the cryonic debate, which is usually related to the after death, this point is also remarkable whether a person in Islamic law has the authority after the death over his body or not. If it is ok, what is the extent?

Cryonics involves cooling the body of a person who has just been announced his/her official death, and this is done to the point of freezing and glass transition with liquid nitrogen. The purpose of cryonics is to keep the body in a particular freezing state for several years to find a solution and treatment for his/her disease in the future and the advancement of various sciences. In cryonics, the tissues of the human body remain healthy¹⁸.

But in this case, what has been confirmed is related to the death of the person who turned him into a corpse. According to the Alcor website, the cryopreservation process begins precisely at the time of the complete cardiac arrest. It means that after attempts to resuscitate the patient, he/she could not reach a conclusion, and his death was officially announced. What is essential is that the intracellular chemical balance has not been disturbed yet. Therefore, at this stage, the corpse is connected to the artificial heart and lung system so that the blood circulates in the body, and doctors can inject a specific type of chemical drug into the body¹⁹.

According to the Cryonic Life Extension Foundation website, Alcor¹⁹ states that during the cryonic process, the body is frozen so that its vital tissues are not damaged. In the future, whenever it was needed, they can be using the "Cardiopulmonary resuscitation device" re-circulate blood flow and return life to the sick person.

Injectable drugs cause the brain oxygen level to remain at an acceptable level and do not interfere; rapid freezing of the brain at this time also causes the brain to fail without state changing or its cells becoming crystalline. The ideal purpose for doing such an action is to allow the brain to resume its function without problems after freezing years. In any case, since such a person is considered a person dead in the Islamic jurisprudence perspective, it is necessary to examine whether a person has authority over his corpse after his death. In the case of a positive answer, to what extent is this authority?

Because bequest and its importance have been emphasized in Islamic narrations and even a chapter of narration books has been dedicated to it²², we must say that requesting that after official death, how people act depends on conditions, including First. It is a testament to the knowledge of how to act so that, according to what has been said, the patients who become crypto, with the knowledge and knowledge of their destiny, accept this matter. Moreover, he should not have been deceived or forced to make this will. Because a person who has been forced to do something has no rule in Islamic jurisprudence and ethics such as retribution or compensation^{23, 44}. Second. The amount paid for this work should not be more than one-third of the person's property at the time of death. That is, if these large expenses, which are required for cryonics, are more than one-third of the deceased's property, it must be with the permission of the heirs, and if they do not allow it, this is excluded and does not have to be enforced^{24, 25}

Third. However, since he is considered dead from the jurisprudential point of view, his property can be divided and given to the heirs. However, if, after years, that person is revived and they can heal him, all his possessions must be returned to him to decide. So perhaps it can be said that the property will be in the hands of the trust's heirs²⁵.

On the other hand, we see that a person can bequeath that he in what conditions and where is buried²⁰, so he has authority. Nevertheless, on the other hand, in testimony about his/her properties, we cannot order more than one-third²¹, so the limits of a person's authority over his successor, although it is existing, it is limited. Although the property is different from the corpse, however, the corpse's powers are also the same manner. That is, as, in the case of property, he has the right to occupy onethird of the property, and his authority is not absolute⁴³. In the case of the corpse, his authority is not absolute.

Considering this fact that is requesting and its importance have been emphasized in Islamic narrations and even a chapter of narration books has been dedicated to itself²², so we must say that requesting after official death, how act for the people depends on following conditions, including:

First, this testament should be aware in terms of how to act so that, according to what has been said, the patients who become crypto, with the knowledge and information of their destiny, accept this matter; And he should not have been deceived or forced to make this testament; Because a person who has been forced to do something, he/she does not have a ruling in Islamic jurisprudence and ethics such as retribution or compensation^{23, 44}.

Second. The costs paid for this work should not be more than one-third of the person's property at the time of death. It means that if these large expenses, which are required for cryonics, to be more than one-third of the deceased's property, it must be with the permission of the heirs, and if they do not allow it, this matter is excluded and is not enforceable^{24, 45}.

Third. From the jurisprudential perspective, he/she is considered a dead person so his/her property can be divided and given to the heirs. Nevertheless, if, after the years, those person is revived and they could treat him/ his, all his/her possessions must be returned to him/his in order to decide again about it. So perhaps it can be said that the property will be in the heirs' hands²⁵.

Attention to the probabilities at the reasonable level

There is disagreement among all people about whether cryonics reach conclude outcome or not. According to the story we were mentioned in the introduction section, almost in all cases, the general agreement and disagreement of people, scientists, and thinkers with cryonics can be seen¹⁹.

Among the experts who have expressed concern about the resuscitation of the girl's corpse and the ethical issues surrounding it, Calligo Cohen, is a professor and neurologist at King's College London. He said:" This issue morally is very complicated. He got rid of the disease and could receive comfort, but others may be affected by this decision at present. The court's decision to allow this teenager body freeze could have an unintended impact on the other people for this false hopes."

British philosopher, Mario Warwick, says:" People need to be more aware of this freezing, even though it is not prohibited or protected by law. People are brutally abused and exploit those who are vulnerable to disease. This is a real moral dilemma"⁸.

Professor Martin Reese, a cosmologist, and astrophysicist, has said:" The promises made by the proponents of cryonics are ridiculous and unserious. In our opinion, this is unlikely this action to be possible, and even if it is possible, it should be ignored. From a moral point of view, if people want to be frozen and revived, even if they can survive, they will make a significant commitment to future generations, and any revived person will be a nuisance or incompatibility for the future."⁸

Anders Sandberg, a researcher at the Institute for the Future of Humanity at Oxford University, said:" Cryopreservation is a controversial discussion that is better known in science fiction than in real life. The individual who wants to keep frozen are like refugees who are fleeing from the present time to the future; "Because they cannot live here."¹⁹

Professor Niels Hope, a professor of ethics and teacher in the life sciences, has said:"

"Until the cryonics is not successful, we do not have to talk about its rules. Nevertheless, if it advances in the next 10 years, there may be ethical, legal, and social questions to answer in this case. The legal effects of successful freezing and resuscitation can be complex and out of reach. If death is reversible, the other body is something higher than the property that must be buried and destroyed."⁸

This possibility of resuscitation was caused by the incidence of legal and moral dilemmas, including that only wealthy people would have access to this expensive technology and whether people would decide to freeze when they became ill. Moreover, as well as inheritance laws to be endangered.

Hope also said: "We should be avoided the Restrictive rules or regulations. Strict rules can lead to the innovations which we need in this area. If it is successful, it would be extraordinary, but it can be extremely problematic in addition to attraction. It is very dangerous to say that something is impossible in science and technology in the 21st century. People who use the word "Impossible" are courageous!"⁸.

In the dialog of this thinker, it may be not reached conclusion cryonics has been documented, but it should also be noted this point that any work has necessary preliminary; If we want to know whether cryonics reach the outcome or not, it should be done on several people to determine being or not being the outcome.

Tim Gibson from the England nonprofit Cryonics Group, which was prepared the body of a 14-year-old girl for transportation to a freezing facility in Michigan, said that all of their staff are crypto volunteers and will abide well by the laws and rules.

He said:" The danger for us is that cryonics will become more to an advertising idea, and more profit-seeking companies, by abusing customers will harm us and this idea."¹⁹

Dr. Raymond Risko, a chiropractor and physiologist who teaches at the university, says that "If the controversial science of the body freezing of a person living with 14-year-old cancer is used, scientists and doctors are at risk of harming their jobs, and they are removed of the scientific community, so they should avoid discussing it". Nevertheless, Risko argued that fiction science signs could not be dismissed merely as fiction science and said that it is likely that within five to 10 years, experts would be able to resuscitate a small mammal, such as a mouse, after preserving it in liquid nitrogen.

Risko also has said that "But those who were interested in freezing, they were hoped that scientific advances would be able to resuscitate the humans who were frozen.

He added that "Unconventional concepts" such as in vitro fertilization, space travel, and organ transplants all have experienced" Initial distrust."

He said:" We do not need to start a big debate. We are still trying to endure all the hardships in keeping and maintaining the organs, and eventually we will find a solution for the whole body."²⁶

Christoph Koch, a neuroscientist at the California Institute of Technology, has said, "If this chemical change in the brain does not destroy the memory synapses, the cryopreservation process will be amazing."²⁷

According to **Ray Kurzweil**, an American scientist, and futurist, "When the world changes thousands of centuries later, the human will reach immortality."²⁸

The proponents of this topic that any subject that was once a fictional story have been later realized; Therefore, the cryopreservation process will be possible one day. Nevertheless, there are also opposing ideas about the cryopreservation subject. Some scientists consider that death is another side of the coin of life and believes that preventing death will never be realized; it contradicts the nature of life and the nature of living beings.

According to these quotations, many cases can be mentioned that were accompanied by denial or even ridicule of others, but in later years, it has been proven, and no one could deny them. As an example, remembering the following points about the fantasy of space travel is not without merit:

Dr. Forrestoremalton, an astronomer at the University of Chicago, was said in 1932 that: "There is no hope for the imaginary idea of reaching the moon because of insurmountable obstacles to escaping the earth's gravity. Also, SIR Richard vali, an England Royal astronomer, was told in 1956 that:" All these writing about space travel is quite difficult".

While **Neil Armstrong** and **Baz Aldrin** were the first astronauts to set foot on the moon in 1969.

In this case, whether the possibility of cryonic impact is a reasonable and acceptable thing or not, it should be said that about the numerous cases of significant advances in the medical and technical fields, it must be accepted that patients return to life. Their treatment is not a matter which cannot be quickly ruled out, so such a possibility is rational and acceptable.

Cryonics is often performed on people who have an incurable disease and are waiting for definitive death according to current medical, scientific definitions. Furthermore, in the definition of death, modern medical sciences should be used, which this definition is different from the past²⁹.

Besides, in the verses of the Qur'an, giving life to one person is as valuable as reviving all human beings³⁰.

In Islamic jurisprudence and ethics, preserving the lives of oneself and others has been considered as the obligatory topics. Moreover, even in case of conflict with other rulings, it precedes them³¹. So, saving a patient's life depends on stopping freezing itself; it will be enforceable. Of course, if we are sure to save his/her life or there is a strong possibility in this regard.

Conclusion

After the brain's oxygen supply is complete, the brain cells gradually stop working and begin to degenerate, but many of its cells are still alive. Therefore, a person's personality information can be encrypted in a short period and up to a few hours after his biological death. The loss of this information will be the final death of information and even irreversible³².

Modern science cannot define the exact moment of information death. However, the theoretical death of information depends not only on current knowledge of the mechanisms of the human brain but also on the ability of future medical technologies to recover and restore information in the damaged brain in order to move towards of patients rehabilitation and improve their personality²⁸.

Stopping the electrical activity of the brain during freezing storage does not mean losing personal identity and memory. Although short-term memory is likely to be lost, there are many reasons why we believe that identity and long-term memory are preserved at the synapse and in the connection between neurons. If today we can bring life back to people who have been drowned for "A few minutes" and even a few hours, it should be able to save their life after a while, which is one of the benefits of future technologies.

It can be said that "Absolute death" occurs only when the essential information of the brain is destroyed, and the preservation of the brain and its memory is exactly what the cryonic goal is to achieve. Of course, no one can guarantee success because no one can guarantee the future. No one can predict scientific progress with certainty. The Cryonics Institute believes that this is an influential theory with a high probability of success, but it does not mean that we do not consider crises and social problems. Nuclear wars, economic collapse, political conflicts, and terrorism are all possible and can destroy the body of cryonics patients as much as they can take the life of any human being.

Therefore and considering the reasonable possibility that exists in this field and the limits of the authority that exists for human beings about their death, it can be said that the issue ruling in Islamic ethics is that this is permissible by observing some of its preconditions and there is nothing wrong with it.

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