

# CRIMINAL LIABILITY FOR CELLULAR PHONE RADIATION IN RECENT LEGISLATION: A COMPARATIVE STUDY

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## ABSTRACT

*The information communication technology represented by cell phones is a significant scientific innovation. Nevertheless, it is necessary to know of the other side of this technology, which is the emission of harmful cell phone radiation for carrying out the communication process. It is no secret that most of the cell phone companies aim to achieve profits without taking into account health as well as technical standards, which in turn aim to reduce the harm arising from cell phone radiation, which has been scientifically proceed in addition to the laws enacted in this regard in both France and America. In light of the failure of the penal laws in Iraq to address this issue, we see the need to criminalize the exceeding of permissible limits of cell phone radiation and environmental harm it causes to humans. There is also a need for disclosing the level of radiation to the public as a preventive measure. It is also necessary to refer to the general texts in the penal code to reach a scientific and theoretical basis to deal with the criminal impact of the cumulative harmful emission of cell phone radiation on humans, especially children. Moreover, this occurs over time as a result of the intensive use of the cell phone.*

**Keywords:** Cell Phone, Non-Ionizing Radiation, SAR, Radiation

## INTRODUCTION

The cell phone is considered as one of the most important technologies of the 21st century. The importance of the study lies in the fact that many people use cell phones in various fields. It also lies in the fact there is a lack of awareness of the harmful effect of cell phone radiation on human health in general and children in particular although there are reports issued by the International Agency for Research on Cancer, which classified cell phone radiation research within the group (2B). This category is used when there is a close causal relationship that leads to cancer as a result of long-term exposure to radiation emitted from cell phones. The legal importance of the topic is highlighted by the large number of people with cancerous diseases in recent years. We see the need for the legislature to intervene in order to protect people from the risks of accumulated non-ionizing radiation emitted from cell phones. In some countries such as America and France, the legislator has warned about the danger of cell phone radiation. It is the right of every person who buys a cell phone to know the (SAR) value and to understand the damages arising from the use of cell phones. This study addresses the weakness of the legislative treatment in Iraq as regards the subject of our research in that it did not emphasize the crime of exceeding the value of cell phone radiation. It also did not address the definition of the specific absorption rate, and did not mention the value of the maximum permissible SAR in its texts contrary to what is found in the French Postal Services and Electronic Communications Code and American environmental law. As for the research methodology, the methods of scientific investigation and comparison approach were adopted. In addition, the theoretical method was primarily adopted and the practical method was discussed in light of the availability of some judicial decisions. In the research plan, we will address the topic by dividing it into two subtopics, preceded by an introduction. The first topic will be devoted to what cell phone radiation is and the criminal impact of its use. As for the second topic, we will deal with the position of law on the harm caused by cell phone radiation. Finally, there will be a conclusion.

## **THE CONCEPT OF CELLULAR PHONE RADIATION AND THE CRIMINAL IMPACT OF ITS USE**

To clarify the concept of cellular phone radiation and the criminal impact of its use, it is necessary to present here a definition of this concept and address the legal nature of it. There follows a section devoted to addressing the criminal effect of cellular phone radiation and its relationship to the specific absorption rate.

### **Definition and Legal Nature of Cellular Phone Radiation**

There is no doubt that there is a group of cellular phone models that emit greater radiation levels than the legal limit as confirmed by the reports of the International Agency for Research on Cancer. The cellular phone radiation research falls within the group (2B) and this category is used when there is a close causal relationship that leads to cancer (WHO, 2013). Accordingly, the necessity of scientific research requires a clarification of the definition and legal nature of cellular phone radiation.

### **Definition of Cellular Phone Radiation**

Throughout this section, we will review the term cellular phone radiation in light of the relevant linguistic terminology and as follows:

### **The Linguistic Definition of Cellular Phone Radiation**

We will first define the term (radiation) first, and then present the definition of cellular phone. Radiation, in the language, is a word derived from the verb to radiate or the radiance of things *i.e.*, to disperse and spread. Radiation means the emission of energy and its extension into space or in a normal medium in the form of waves of any kind (Mustafa, 1971). As for phone, this word is a noun derived from the verb (shouted) denoting a strong voice. It also refers to a loud, dry voice. For example, "I heard a caller shouting if you could hear the voice and did not see anyone (Ibn Manzur, 1883).

### **The Terminological Definition of Cellular Phone Radiation**

We will deal with the definition of radiation and then touch on defining the term cellular phone.

### **Defining Radiation Terminologically**

It means multiple types of radiation spread in space. While some types of radiation are actually present in nature such as sunlight, others result from scientific progress in the field of technology such as electromagnetic radiation, one of which is non-ionizing radiation resulting from the use of cellular phones. Therefore, what is meant here is to define the terminology (non-ionizing radiation), which as result of intense and prolonged use, may turn into harmful ionizing radiations when emitted from cellular phones that do not follow the legal limit permitted for their users. We find that the Iraqi legislature has defined non-ionizing radiation as "electromagnetic radiations located at frequencies of electromagnetic spectrum less than  $(3 \times 10) 15$  Hz, which do not have sufficient energy to alter the molecular structure of living tissues, such as Radio Frequency (RF), Microscopic Waves (MW) and Infrared (IR)". These are indicated in the Iraqi instructions for protection from non-ionizing radiation (Iraqi, 2010). The Qatari legislature has also addressed the definition of non-ionizing radiation in Decree (Qatari Radiation Protection Law, 2002), namely, the Qatari Radiation Protection Law issued. This law

defined it as" all types of radiation that do not directly or indirectly ionize tissue when it falls on it". As for the jurisprudence of non-ionizing radiation, it is defined as "radiations of relatively weak energy that can break the bonds between the components of tissue, including visible light, ultraviolet radiations, infrared radiations, radio frequencies and short waves, and these radiations propagate at a single speed (Khalid, 2018).

### **Defining the Cellular Phone Terminologically**

In the Iraqi instructions for protection from non-ionizing radiation (Iraqi instructions, 2010), the Iraqi legislature defined it as "a small device for exchanging radio signals with the service center in the central exchange through the base stations operating at a low power". Also, we find that the US legislature also defined the cellular phone as a "mobile wireless phone designed to transmit and receive communication operations through its services available in Article (22.99) of Clause (47) of the Federal Law of Regulations and does not include the wireless device integrated into boats. At the level of jurisprudence, it was defined as follows: "it is a wireless communication tool that operates through a distributing network to cover a specific area of broadcasting towers and then these are connected to each other through fixed lines and satellites" (Radhwan, 2016). After clarifying the meaning of both cellular phone and radiation, it becomes clear to us that the intended meaning of this term is: an electromagnetic radiation that propagates in space in the form of radio frequency waves that an object or one of its parts can absorb. At the outset, it can be harmless radiations and may then be transformed in the long run into harmful ones.

### **The Legal Nature of the Crime of Exceeding the Level of Cellular Phone Radiation**

This section aims at indicating and defining the value of the Specific Absorption Rate (SAR). We can deal with it as follows:

#### **The Crime of Exceeding the Level of Cellular Phone Radiation that Affects Human Health**

The type of crimes affecting human health that is committed by means of phone radiation is considered one of the most sophisticated and dangerous crimes at all. In the event that (SAR) is not shown in accordance with the legally-defined percentage, here comes the role of legislation to define this crime and determine who the perpetrator is and impose the appropriate punishment for it. This is because it falls within the remit of the penal and civil laws for communications and public health and this is what the French legislature has embraced in the rules of article (L.3491) were amended in the French Postal and Electronic Communications Code of 2017 as well as Article (L.5232-1-1, L.5232-1-2, L.5232-1-3), Code of Public Health, France, 2015.

#### **The Act that Constitutes the Corpus Delicti is one of the Temporary Crimes**

The time taken for committing the crime is considered the criterion for dividing the crimes into temporary and continuous. The circumstances surrounding the execution of the crime should be taken into account in estimating the time required for the establishment of its corpus delicti (Hosni, 1984). As for the crime of exceeding the value of the cellular phone human health as a temporary crime, the corpus delicti of it is temporary and ends as soon as the value of (SAR) is not shown on the sticker accompanying the cellular phone at the sale site.

### **As a Negative Crime**

The behaviour that constitutes the corpus delicti of the crime of exceeding the value of cellular phone radiation is done by negative acts. These include the retailer's refraining from disclosing the value of (SAR) on the sticker accompanying the cellular phone in which the price and features of the device are published on the site of sale.

## **THE CRIMINAL IMPACT OF CELLULAR PHONE RADIATION AND ITS RELATIONSHIP TO (SAR)**

Many questions have arisen about the extent of the criminal impact of cellular phone radiation (Abdullah, 2018). Therefore, we will review the criminal impact of using cellular phone radiation in the first section. Then, we will devote the second to showing the relationship of cellular phone radiation with the value of the specific absorption rate (SAR).

### **Criminal Impact of Using Cellular Phone Radiation**

Many scientific studies have confirmed the most important negative effects of using cellular phone radiation (Athab, 2018). Some researchers, pieces of legislation, and international committees have taken strict measures to prevent the biological effects of intense or chronic exposure to cellular phone radiation (Abdullah, 2018), which we will address as follows:

#### **As a Source of Harmful Effect on its Users**

Scientists have raised in their research many concerns about cellular phone radiation as many of them argued that children and young people under (Abdul-Sattar, 2003) are the most vulnerable to cellular phone radiation. This is due to their still developing immune systems, which are less powerful than adults. This is what the World Health Organization has confirmed in its report on what are the most important health risks associated with mobile phones (World Health Organization, 2014). It may lead to some cases of memory loss and weakening of immune systems, which leads to the emergence of many diseases, including cancer and allergies (Khalid, 2018).

#### **As A Serious Impact on the Electronic Components of Modern Devices**

The harm of phone radiation is not limited to its users, but it also seriously affects the electronic components of modern devices. The radiation of the phone may cause interference with equipment and devices that contain electronic components and circuits. This in turn affects the efficiency of these devices such as air navigation devices, medical devices and modern cars (Abdul-Sattar, 2003).

The interference between electromagnetic waves generated from cellular phone radiation and micro-electronic devices may cause disasters for travellers in aircraft or dangers to the health of patients in hospitals (Athab, 2018). Therefore, it is better not to use a cellular phone in the places where these electronic components of modern devices are located. The purpose of this is to avoid the dangerous and harmful effects of cellular phone radiation on it.

#### **Cellular Phone Radiation' Other Health Risks Associated with Occupations**

The use of cellular phones for a long period of five to six hours a day for twelve years while at work was found to cause cancer. This has been proven when a number of doctors gave their testimony before the Italian Supreme Court and said that the intensive use of cellular phones increases the risk of developing carcinomas in the head (Cbsnews.com, 2012). Indeed, the ruling of the Italian Supreme Court in 2012 in the case of 55-year-old Innocenzo Marcolini,

a financial director of a company in Brescia, northern Italy, compelled the company to pay him financial compensation. This is because it was found that he felt an unusual prick in his chin while shaving. Soon, he was diagnosed with a cancerous tumor in the facial muscles and sensations, which led to his partial facial paralysis (WHO, 2013). In April 2017, another Italian court ruled that the increased use of a cellular phone while at work had caused an injury for Roberto Romeo, a 57-year-old executive director of an Italian telephone company. He used cellular phone three to four hours a day for fifteen years, which led to the removal of neurinoma of the acoustic nerve, a benign but disabling tumour. The relevant Judge (Laura Iria) of the Italian court was prompted to rule on the Italian telephone company to pay a pension to the profession patient as a compensation of (500) euros per month (Sola, 2017). Accordingly, the Italian court ordered the government to launch an awareness campaign to notify people of the health risks from phone radiation, which started on July 16, 2019 (Italian Court Orders Government to Launch Cell Phone Radiation Awareness Campaign - Environmental Health Trust, 2019).

### **The Definition of SAR and its Relationship to Cellular Phone Radiation**

According to Chapter 2 Sections (1101/d) of Cell Phones Duty to Detect Radiation Levels, Ordinance amending the California Environmental Cadge, USA, ordinance NO 10155, 2010, SAR is legally defined as “the maximum value of the SAR of the entire body for making a specific model of cellular phone models as registered with the Communications Commission”. Chapter “Definitions and principles, Article (R9) of the French Postal and Electronic Communications Code of 2017 defined it as “the rate of energy absorption produced by the equipment by the body mass unit. It is expressed in watts per kilogram, and is measured for the whole body or a certain part of it”. In general, the goal of determining the SAR value is to ensure that the cellular phone radiation does not exceed the maximum permissible levels of exposure. Therefore, when the cellular phone is working under conditions that produce the highest possible energy, and what is meant here is poor conditions for transmission and reception, this will increase the level of the SAR value. This in turn leads to an increasing level of harmful cellular phone radiation to the human head and body.

### **The Laws' Position on the Harm Caused by Cellular Phone Radiation**

It must be noted that most countries, after becoming certain of the issue of harm arising from exposure to cellular phone radiation, began issuing laws to clarify the dangers of these radiations (Abdullah, 2010). Accordingly, we will address in the next sections the extent to which traditional and modern laws are applicable to the harm arising from cellular phone radiation.

## **APPLICABILITY OF TRADITIONAL LAWS**

In this section, we will review the most important texts in the penal code that can be adapted to deal with the harm of cellular phone radiation.

### **The Position of the Penal Laws**

One of the very important topics is the issue of applying the general principles of the penal code to the crime of exceeding the value of cellular phone radiation. This is particularly so given the absence of the legislative texts dealing with the above topic. Criminal jurisprudence opinion is divided on the possibility of addressing this issue. The first sees the possibility of applying crimes of probable intent. The second entertains the possibility of applying crimes of wrongful harm.

## Crimes of Dolus Eventualis

This is defined in general terms as “the mental behavior of the accused who foresees the criminal consequences to which his intentional activity is likely to lead, even if not intentional, and then he proceeds with that activity indifferent to the results” (Hosni, 1988). So, the other results are of the act itself without the perpetrator’s intent. This occurs in multiple cases: the first case is when the offender foresaw the harmful result as it passed in his mind, even if he did not want it, then he was not aware of it, so that it was the same whether or not it occurred. Thus, he completes the action until the result occurs. In the second case, the perpetrator expected the result when he committed the act, but did not accept it and relied on his experience in getting rid of it. As for the third case, the perpetrator did not expect the result when he committed the act, while he should have expected it (Al-Khalaf, 2010). In all the above cases, we see that the perpetrator did not work to achieve the result as a possibility that may or not happen and his intention in relation to it is probabilistic. As such, it is intermediate between direct intent and negligence (Hosni, 1988). It can be noted that there are some criminal laws that have taken on the idea of dolus eventualis, such as the Greek Penal Code, particularly Article 27 of this law, which considered this intent available to those who knew that their act facilitate the occurrence of the events they are doing. And there are laws that imposed a special provision for these probabilistic cases, without intent and above negligence and did not include a definition of dolus eventualis, such as the Italian Penal Code, particularly Article 43 of this code. Other laws such as the French Penal Code remained silent on providing a ruling for this case and left the subject to jurisprudence. As for the Iraqi Penal Code, No. 111 of 1969, as amended, it has treated the direct intent and the dolus eventualis on equal footing in terms of responsibility, as it considered the crime intentional (the case where the perpetrator anticipates the occurrence of certain criminal consequences of an act and proceeds to risk it). Based on the above, it can be stated that the dolus eventualis may apply to the case of damage caused by cellular phone radiation, as retailers can expect harmful consequences for humans in terms of biological contamination and the possibility of applying the dolus eventualis on such cases.

## Crimes of Ex Delicto

According to the second opinion, this type of crimes is achieved when the perpetrator does not take the precaution required by the legal system to prevent the occurrence of the crime as long as the average person can anticipate it, and this behavior leads to the occurrence of the criminal consequence. If there is no mistake, then there is no punishment, and the act is considered an accident or fatality and as such cannot be considered a crime. This is because the criminal and civil liability is based on a mistake, which occurs whenever an act or voluntary abandonment resulted in something that the perpetrator did not want directly or indirectly, but he have could avoided it (Abdul-Malik, 2010). Mistake can have different forms in various laws such as the Iraqi Penal Code which stipulates the mistake in Article 35 stating (whether this mistake is negligence, recklessness, lack of attention, lack of precaution, or failure to observe laws, regulations and orders).

Negligence or lack of attention means the abstaining of the perpetrator from what must be taken with caution in order to avoid the occurrence of a harmful consequence. As for lack of precaution, it is realized in the event that the perpetrator anticipates the possibility of a harmful consequence of his behavior without taking precautionary measures. On the other hand, recklessness means lightheadedness, carelessness and imbalance, *i.e.*, the perpetrator's random behavior without deliberation and thinking (Abdullah, 2010). As for non-observance of laws, regulations and orders, it refers to a stand-alone reason that entails the responsibility of the perpetrator for the accidents that occur as a result of this violation. And this is without the need for a proof that he committed any form of mistake because the violation of laws, regulations and orders is a mistake in itself (Abdul-Malik, 2010). It is evident from the above that the crime of ex delicto committed by the retailer is a result of selling the cellular phone to users without

indicating the specific absorption rate SAR. This undoubtedly results in the establishment of criminal liability for the voluntary behavior in the event that the act results in a harmful consequence against the right to safety. In the absence of criminal legislation that deals with this rare and vital topic in our Arab world, it is possible to return to the general rules in the penal code, particularly the image of lack of precaution in the crime of *ex delicto*.

## THE POSITION OF MODERN LAWS

We mean by these the legislation concerning the prevention of damage from exposure to the radiation of cellular phone, and the maximum values allowed for the qualitative absorption rate. In addition, it also means the most important sanctions imposed on violators of legal texts. Therefore, this section deals with reviewing the position of US and French law.

### The Position of the US Law

The law of right to be informed of the cellular phone in San Francisco City 11-165 of 2011 was issued after the vote is made by the Board of Supervision in the city. An amendment was made on the Environment Law in San Francisco County by adding the eleventh chapter to demand traders to reveal the value of Qualitative absorption rate of cellular phones. Article 1104 E) of the aforementioned law clarified the adoption of the Values and Rules of Federal Communications Committee (FCC) in choosing the value of the qualitative absorption rate based on the Code of the American Federal Regulations (COP) in Chapter 47/section Article (1103/AC) of the Act which identified the maximum value allowed for the qualitative absorption rate for cellular phone radiation, which has been determined at a level of 1,6 watts/kg). Article (1103/a,b,c) of the Act identified the conditions that must be followed by the entity that is subject to criminal liability, which is the retailer selling or renting a cellular phone. These conditions run as follows:

- A. After 15 days from the Ministry of Environment adopting the regulations required under Article 1104/D, retailers must display cellular phones in a prominent and visible place to the public within the retail store, and place a media poster that will be developed by the Department of Environment stating the SAR value of the cellular phone as referred to in Article 1104.
- B. 15 days after the Ministry of Environment adopting the regulations required under Article 1104/D, cellular phone retailers must provide every customer who buys a cellular phone with a free copy of the information sheet developed by the Ministry of Environment as indicated in Article 1104. Also, a copy of this sheet must be provided to any customer who requests it, regardless of whether or not they have purchased a cellular phone. The purpose of this is to educate people.
- C. 30 days after the Ministry of Environment approving the regulations required under Article 1104/D, if a cellular phone retailer publishes materials related to models of displayed cellular phones, these materials must include the three pieces of data specifying their contents, size and shape as printed by the Ministry of Environment.

### These Run as Follows

1. A statement showing that cellular phones emit radio frequencies absorbed by head and body.
2. A statement indicating the most important preventive measures to reduce radio frequency exposure from the use of cellular telephone.
3. Statement showing that the information paper referred to in subparagraph (b) is available from retailers of cellular phones upon request.

On the other hand, article 1104 (b) referred to the most important preventive measures that the Department of Environment must follow in order to reduce cellular phone radiation. In this regard, the article stated the following: (materials must inform consumers about the issues related to radio-frequency energy emissions from cellular phones as well as the measures that a cellular phone user can take to reduce exposure to radio frequency energy. These include turning

off cellular phones when not in use, using a headphone or speakerphone, or using the phone to send text messages).

As for Article (1105/b) of this law, it deals with the criminal liability arising from the breach of the aforementioned provisions and as follows: The violator of this chapter or any regulations issued pursuant to it shall be punished with the following fines

1. Up to \$ 100 for the first violation.
2. Up to \$ 250 for the second violation during a period of 12 months.
3. Up to \$ 500 for the third violation during a period of 12 months.

It appears that the US legislator has criminalized the exceeding of the value of cellular phone radiation and was a pioneer in addressing the issue of damage caused by cellular phone radiation, as well as the prevention requirements approved by the Department of Environment in cooperation with the Department of Public Health.

### **Position of French law**

The French National Assembly approved the Law on Sobriety, Transparency, Information and Consultation on Exposure to Electromagnetic Waves No. 468 of 2015 and on the basis of which articles were amended in the French Postal and Electronic Communications Code of 2017, as amended. Articles were added to the French Public Health Code of 2015, as amended, concerning cellular phone radiation. The rules of article (L.3491) were amended in the French Postal and Electronic Communications Code of 2017, as amended, the first paragraph of which stipulated the following necessity : (the issuance of a decree specifying the value of the specific absorption rate emitted by equipment used in electronic communication networks when people are exposed to it). Article (L.3491) explained in the second paragraph, the following necessity: (the formation of a national committee from within the National Frequency Agency (Agence Nationale Des Fréquences) to consider the levels of exposure of people to electromagnetic fields. Article (R20 19) of this law confirmed that the Minister of Electronic Communications and the Minister of Public Health must issue a joint decree concerning the use of the radio spectrum, stating that (the operation of the cellular phone is subject to technical specifications approved by the minister in charge of electronic communications. This is for reasons related to the need of avoiding harmful interference from the use of the radio spectrum in conjunction with the Minister in charge of public health for reasons of public health.

As for the material relating to cellular phone radiation added to the French Public Health Code of 2015, as amended, Article (L.523211) of this Act states that "any advertisement, regardless of its means, aiming to promote the use of the cellular phone for voice communications, should clearly and visually state the recommended use to reduce the exposure of the body and head to the electromagnetic emissions produced by electronic communication equipment." The article (L.5232 12) also clarified the punishment imposed on violators in the event of not clarifying the qualitative absorption rate stating that (any advertisement, whatever its means, aimed at promoting the use of the cellular phone, without showing the qualitative absorption rate to reduce the exposure of the head and body to the electromagnetic fields emitted by the cellular phone, and the offender is liable to a maximum fine of 75,000 euros).

Article (L.L. 5232 1 3) also states that (at the buyer's request when selling any mobile phone, the worker provides a suitable supplement for children under the age of 14 to reduce the head's exposure to electromagnetic emissions). In an important step, a joint decree on the identification of consumer information was issued and the qualitative absorption rate of radio equipment was introduced on November 15, 2019 where (Article 3/paragraph 3/b) states that (the specific absorption rate determines the amount of exposure used to electromagnetic waves from cellular devices, and the maximum allowable qualitative absorption rate is (2 watts/kg) for the head and (4 watts/kg) for the other parts).

It is clear from the above that the French legislator has also criminalized the exceeding of the value of cellular phone radiation. It has also set the maximum permissible as regards



qualitative absorption rate. Although the advanced texts fall within the scope of the Electronic Communications Act and the Public Health Code, we find its specificity in dedicating special texts in which the details of non-ionizing radiation issued by the cellular phone are drawn.

## **CONCLUSIONS AND RECOMMENDATIONS**

We present here the most important conclusions we arrived at as well as some recommendations in the hope that they will be used to reduce the crime and not spread it.

### **Conclusions**

The conclusions run as follows:

1. It is clear that the cellular phone has its own positive and negative aspects. The latter are represented by the emission of harmful non-ionizing radiation from the cellular phone. It is preferable not to use the cellular phone in places where the electronic components of modern devices are located and this is in order to avoid the harmful effects of the radiation of the phone.
2. It turns out that most cellular phone companies aim to achieve profits without taking into account technical and health standards aimed at reducing the damage arising from cellular phone radiation, which scientific facts have proven to be, overtime, cumulatively harmful to human beings and children.
3. We can notice that many developed countries such as France, America and others have enacted laws to detect the levels of cellular phone radiation and it is the right of everyone to be informed of the cellular phone that they intend to buy.
4. It is clear that the Iraqi legislator did not specify the maximum amount allowed for the qualitative absorption rate of the cellular phone, as was set by the American legislator by a ratio of (1.6 watts/kg) and the French legislator by a ratio of (2 watts/kg). It also did not refer to the definition of the qualitative absorption rate.

### **Recommendations**

1. It is necessary to rely on the general texts of the Penal Code in the absence of the explicit legal addressing this issue, without prejudice to the basic principle that only the law determines criminal offences and penalties. We can see in the texts of the penal texts what will help the situation and give a kind of protection to the human right to a life free of harm, as in the punitive texts contained in the crime of *dolus eventualis* and the crime of non-intentional fault.
2. We call on the Iraqi legislator to speed up the enactment of a law to reveal the value of cellular phone radiation, and it is the right of everyone to be informed of the cellular phone that they intend to buy.
3. We call on the relevant authorities in the Ministry of Communications to monitor telecommunication companies periodically as regards the implementation of maintenance of cellular networks and the provision of appropriate devices. This is in order to work on strengthening the cellular network. The weaker the cellular phone network, the more the need to operate the cellular phone stronger *i.e.*, the increased radiation of the cellular phone being very close to the head and body of the human body.
4. We call on the relevant authorities of the Ministry of Health in cooperation with consumer protection associations to provide advice and awareness campaigns to inform people of the health risks when exposed to cellular phone radiation due to intensive use.
5. We suggest to the relevant authorities that it is necessary to provide the required protection to their employees in the field of communication.

### **List of Laws**

1. The French Penal Code of 1994, as amended.
2. The Italian Penal Code of 1930, as amended.
3. The Greek penal code of 1951.
4. Iraqi Penal Code No. 111 of 1969, as amended.
5. The Qatari Radiation Protection Law issued No. 31 of 2002.
6. Iraqi instructions for protection from non-ionizing radiation No. 1 of 2010.
7. Cellular Phones Duty to Detect Radiation Levels, Ordinance amending the California Environmental Code, USA, ordinance NO 10155, File Number 100104, 2010.
8. French Code of Post and Electronic Communications of 2017, as amended.
9. The French Code of Public Health of 2015.

## Judicial Decisions

1. The decision of the Italian Supreme Court in 2012 was published in the case (Innocent Marcolini argued).
2. The decision of the Italian court in 2017 was published in the case (Roberto Romeo).
3. The Italian court's decision in 2019 was published and forced the government to launch awareness campaigns to notify people of the health risks from cellular phone radiation.

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