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Prove the Harm of Cell Phone via Biological Experiments

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ABSTRACT

This paper highlighted the problem of the adverse effects of the mobile phone on human health. The main aim is to prove that cell phone has an adverse impact on people's health; many experiments were conducted to demonstrate that cell phone cause damages in the genetic material, moreover it is one of the principal reasons for brain cancer, and it has many other effects on human cells. Out of the experiments we concluded that mobile phone emit microwave signals, and these harmful signals have an ability to penetrates inside human body heating up our cells, this lead to increase blood flow within the cells, causing the growth of abnormal cells which is the cancer cells.

Keywords: Human health, mobile phone, effect on human health, cell phone and human health.

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INTRODUCTION

Mobile communication systems are one of the fastest growing and the most demanding of telecommunication technologies. Nowadays there is too many telephone subscriber spread all around the world, and it is not difficult to see that the mobile phone is the universal method of communication in the future. However, there are many types of research spread recently discussing the effect of the cell phone on human health [1]. Although the mobile industry assists that their products are safe, still they did not have any scientific prove for that, Moreover cell phone has never been tested for a safety issue.

Since the human health safety is the priority number one. So we prove through several experiments that mobile phone is a harmful device.

The science has shown that microwave radiation from cell phones and cordless phones cause a significantly increased risk for brain tumors. Besides, growing evidence is indicating that it causes disturbed brain function, damage to the genes and other disturbances. Recently the World Health Organization "WHO" admits that mobile phone may increase the risk of brain tumors. Professor Johansson finds that "the brain tumor issue is a minor thing compared to many other harmful effects. While brain tumors affect a small percentage, other serious effects affect the whole population including genetic damage, sleep disturbances, reduced learning capacity, concentration difficulties and psychological problems" [6].

The mobile antenna delivers a colossal amount of radio frequencies in a small area of our bodies, most of RF energy disposed on the skin and the outer portion of the brain (cerebral cortex), so it affects the blood-brain barriers causing up normal glucose in metabolism which leads to many health problems [2].

In 1993, the first lawsuit was filed against the cellular phone industry by a man who claimed cell phone use caused his wife's brain tumor. She had a brain tumor shape exactly like her cell phone antenna. What happened prompted the mobile industry to fund the \$25 million study to prove that cellular phones were safe. They hired George Carlo, a highly respected public health scientist to conduct the research. His study was inconclusive. In fact, he found a strong correlation between cellular phone use and brain tumors, neurological diseases and genetic damage [7]. His clinical studies have shown that Cell phone radiation penetrates deep into the developing brains of children. Moreover, mobile phone radiation causes a chromosomal damage to blood proved to wireless phone radio waves. Scientists found a link between chromosome damage and brain cancer. Finally, Cell phone radiation breaks down the blood brain barrier. Think of the blood-brain barrier as an immune system for the brain. As it breaks down, other environmental toxins more easily enter the brain and cause damage [4].

A mere biological experiment was conducted to show that cell phone radiation has a harmful effect on our bodies, and to prove the fact that mobile phone is damaging our living cells. In this experiment, we tried to know the actual cause beyond the harm of the mobile phone. We conduct two experiments the first one is an animal experiment and the second one is a plant experiment.

ANIMAL EXPERIMENT

In this experiment, two mice were used because they are the only animals that have the similar internal construction as a human body, and it is employed in similar experiments.

We conduct this experiment with two mice. In the first stage, we left them in one cage without exposing any radiation for 20 days. To understand the natural behavior of the mice (The amount of food eaten per day, total hours of movement, and total hours of sleeping" *set without any movement") and the result was shown in Table (1).

Table (1): The behavior of the two mice in one cage without exposing any radiation

	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	2 tablespoons of cereal	4.h	15.h	2 tablespoons of cereal	4.10.h	15.h	2 tablespoons of cereal	4.3.h	14.9.h
Mouse 2	2 tablespoons of cereal	4.h	15.h	2 tablespoons of cereal	4.10h	15.h	2 tablespoons of cereal	4.15.h	14.15.h
	Day 4			Day 9			Day 14		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	2 tablespoons of cereal	5.h	14.15.h	2 tablespoons of cereal	5.h	14.h	2 tablespoons of cereal	5.h	14.h
Mouse 2	2 tablespoons of cereal	5.h	14.15.h	2 tablespoons of cereal	5.h	14.h	2 tablespoons of cereal	5.h	14.h
	Day 16			Day 17			Day 20		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	2 tablespoons of cereal	5.h	14.h	2 tablespoons of cereal	5.h	14.h	2 tablespoons of cereal	5.h	14.h
Mouse 2	2 tablespoons of cereal	5.h	14.h	2 tablespoons of cereal	5.h	14.h	2 tablespoons of cereal	5.h	14.h

We can notice that the mice have almost the same behavior with a little difference.

Then Mice were separated and placed each one in a cage, and we left them without exposing the radiation so that the mice adapt to the new situation, and the results are shown in the table (2).

Table (2): The behavior of the two mice in different cages without exposing to any radiation

	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	7.h	13.h	1.5 tablespoons of cereal	6.30.h	13.30.h	1.5 tablespoons of cereal	6.h	14.h
Mouse 2	1.5 tablespoons of cereal	7.h	13.h	1.5 tablespoons of cereal	6.30.h	13.30.h	1.5 tablespoons of cereal	6.h	14.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
	Day 7			Day 15			Day 20		
Tested	amount of	movement	Sleeping	amount of	Movement	Sleeping	amount of	movement	Sleeping

issue	food			food			food		
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h

We note that the mice, at first, did not adapt, so the number of hour movement increases and the number of sleeping hour decreases and the amount of eaten food also decreases, then the mice start to adapt and have a stable state as shown in the table.

In the final stage, Mouse 1 remain the same without exposing the radiation, while mouse 2 has been exposed to cellular phone radiation for 2:30 hour daily and the results was shown in the table (3).

Table (3): behavior of the two mice in two different cages Mouse 1 remain the same without exposing the radiation, while mouse 2 has been exposed to cellular phone radiation for 1 hour daily

WEEK 1									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.5 tablespoons of cereal	5.h	14.h	1.25 tablespoons of cereal	5.h	12.h	1.25 tablespoons of cereal	5.h	12.h
	Day 7								
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	1.25 tablespoons of cereal			5.h			12.h		
WEEK 2									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.25 tablespoons of cereal	5.h	12.h	1.25 tablespoons of cereal	6.h	12.h	1.25 tablespoons of cereal	6.h	12.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping



Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.25 tablespoons of cereal	6.h	12.h	1.25 tablespoons of cereal	6.h	12.h	1.25 tablespoons of cereal	6.h	12.h
Day 7									
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	1.25 tablespoons of cereal			6.h			12.h		
WEEK 3									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.25 tablespoons of cereal	5.h	12.h	1.25 tablespoons of cereal	6.h	12.h	1.25 tablespoons of cereal	6.h	12.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.25 tablespoons of cereal	6.h	12.h	1.25 tablespoons of cereal	6.h	12.h	1.25 tablespoons of cereal	6.h	12.h
Day 7									
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	1.25 tablespoons of cereal			6.h			12.h		
WEEK 4									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.25 tablespoons of cereal	6.h	10.h	1.25 tablespoons of cereal	6.h	10.h	1.25 tablespoons of cereal	6.h	12.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	1.25 tablespoons	6.h	10.h	1.25 tablespoons	6.h	10.h	1.25 tablespoons	6.h	10.h



	of cereal			of cereal			of cereal		
Day 7									
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	1.25 tablespoons of cereal			6.h			10.h		
WEEK 8									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	tablespoon of cereal	6.h	9.h	tablespoon of cereal	6.h	9.h	tablespoon of cereal	6.h	9.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	tablespoon of cereal	6.h	9.h	tablespoon of cereal	6.h	9.h	tablespoon of cereal	6.h	9.h
Day 7									
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	tablespoon of cereal			6.30.h			9.h		
WEEK 12									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	tablespoon of cereal	6.30.h	8.h	tablespoon of cereal	6.30.h	8.h	tablespoon of cereal	6.30.h	8.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	tablespoon of cereal	6.h	9.h	tablespoon of cereal	6.h	9.h	tablespoon of cereal	6.h	9.h
Day 7									
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	tablespoon of cereal			6.30.h			8.h		

WEEK 30									
	Day 1			Day 2			Day 3		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	0.9 tablespoon of cereal	7.h	8.h	0.9 tablespoon of cereal	7.h	8.h	0.9 tablespoon of cereal	7.h	8.h
	Day 4			Day 5			Day 6		
Tested issue	amount of food	movement	Sleeping	amount of food	Movement	Sleeping	amount of food	movement	Sleeping
Mouse 1	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h	1.5 tablespoons of cereal	5.h	15.h
Mouse 2	0.9 tablespoon of cereal	7.h	8.h	0.9 tablespoon of cereal	7.h	8.h	0.9 tablespoon of cereal	7.h	8.h
	Day 7								
Tested issue	amount of food			Movement			Sleeping		
Mouse 1	1.5 tablespoons of cereal			5.h			15.h		
Mouse 2	0.9 tablespoon of cereal			7.h			8.h		

From carrying out this experiment and compare the results for the first mouse “no radiation” with the results of the second mouse “expose to cell phone radiation”. It seems that it is not difficult to notice the changing of the behavior of the second mouse where the amount of eaten food decrease and the number sleeping hours decreases. Moreover the ability to uninterrupted sleep also decrease, also, the hour movement decreases, and when the second mouse start his movement, the movement is brutal and fierce.

By the end, we can easily note the changes in the mouse behavior after exposed to cell phones radiation for a very short period only 2:30 h daily for only 30 weeks. So it becomes clear that mobile phone affects our sleep disturbances, concentration and makes many psychological problems. We can say the powerful movement in the mouse behavior is due to a high amount of blood flowing in his body so the radiation can affect the first immunity system which is the blood barrier, moreover high blood flowing into our brains allow abnormal cell to grow and this is what we call it cancer cells.

Summary of all behavior of exposed to cell phones radiation mouse by cell phone electromagnetic waves is shown ion Figure 1.

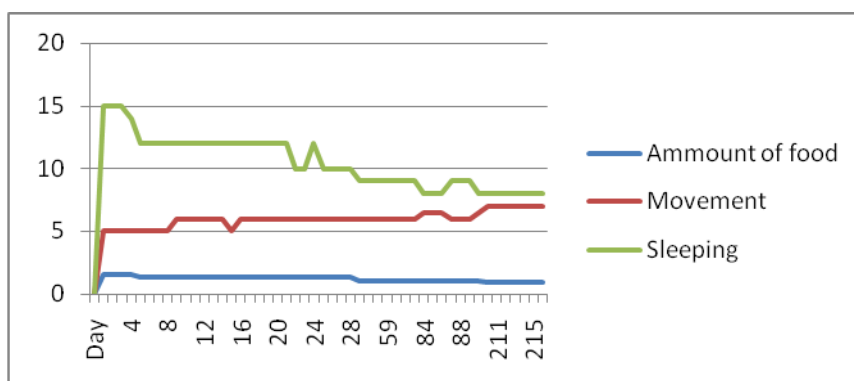


Figure 1: Summary of behavior of the second mouse exposed to cell phones radiation

PLANT EXPERIMENT

This experiment shows the effect of mobile phone radiation on living tissue such as plant tissue. We grow two lentil plants and expose one of them to radiation, and the other plant remain without radiation, we Track the growth of the plant and after two weeks of their agriculture and the results were also shown in the figure (2).



Figure (2) a. plant 1 “without exposing the radiation”b. plant 2 exposed to cellular phone radiation for 2 hours daily

So after this experiment we are confident that mobile phone radiation damage and harm living cells because the cell phone is a small microwave oven it heats living cells.

RESULTS AND RECOMMENDATIONS

In conclusion, the aim of this paper is to prove through experiments that the phone radiation cause negative impacts on human health and this have been proven through many experiments conducted on plant cells and animal cells. Out of the experiments we concluded that mobile phone emit microwave signals, and these harmful signals have an ability to penetrates inside human body heating up our cells, this lead to increase blood flow within the cells, causing the growth of abnormal cells which is the cancer cells.

By the end there're many recommendations to minimize the negative effect of mobile phone radiation:

- Don't use a cell phone, wireless network near a cell phone tower. Don't stand close to someone who is using a cell phone [4].
- If you must use a cell phone use it only in places with a strong signal. This allows the phone to transmit at low power (up to 100 times lower than its maximum value), reducing exposure accordingly [4].
- Allow children to use cell phones only in emergencies [5].
- Limit cell-phone usage on public transport to avoid emitting magnetic radiation to others around you [5].
- Use a wire-line phone for long conversations, not a cell phone [5].
- Switch ears when talking on the cell phone, so one side of the body is not overexposed to radiation [5].
- Use messages

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