# The Health Effects of Electrostatic Charge in the Biosphere at Al-Sulyil City, KSA

**Asma Mohammed Elbashir[1], Abdullah Alfalih[2], Atef Elbendary[3], Shafi Mohamed[4]**

[1, 2, 3] College Of Science And Human Studies, Salman Ibn Abdulazeez University,
[4] Al-Sulyil Hospital, Al-Sulyil, KSA.

abdelazeez@hotmail.com

## ABSTRACT

*The technology that is used every day from different types of devices, such as mobile phones and even cars, produces Electrostatic field (EF), affect humans directly, and is working on creating an imbalance in the health and the environment, and in what follows some of the damage caused by human exposure to electromagnetic field (EF) has been studied and its effect on the health of Sulyil City scions in Saudi Arabia. The study showed that static electricity has a clear effect on the nervous system (ns) of the human descendant in months which high humidity. The comparison effect of (EF) between men and women was obtained.*

**Keywords:** Electromagnetic fields, Al-sulyil city, nervous, humidity

## INTRODUCTION

Some studies have shown that different cells in the body communicate with each other through the vital electricity, and electromagnetic fields, but the values are very low, so that affects the body is exposed to an external electromagnetic field caused by different organs, cells and work on the system to communicate with each other. The electrostatic charges which affect human body becoming charged up at Al-sulyil city, was studied by Atef Elbendary and Abdullah Alfalih, through measuring the DC voltage of different people i.e. doors, cares body, etc, [1]. More researches gave attentions to investigate and measured the electrostatic charge [2]-[3]. In this work section (2) is devoted for *Interaction of the electromagnetic field with the body*, section (3), talked about the effect of atmospheric electrostatic field for males and females .Section (4) and (5) are concerned with method and results. Discussion and *Conclusion are* concerned in section (6), (7) respectively.

## INTERACTION OF THE ELECTROMAGNETIC FIELD WITH THE BODY

The external electromagnetic field, which emerge the body made change the frequency of the electromagnetic field of it. Through a process called resonance effect, the change in frequency domain normal body works to distort the balance of the system of communication between cells, and perturbation is happening in the body, the mind and the physical and emotional. It is worth mentioning that such changes cannot be completed as soon as the body is exposed to external domains. The EF which are stored in these areas in the form of pulses of electromagnetic in cells. Many of the important processes in the body disrupted by EF which stored in cells. Unfortunately , all minerals that surround us, from the keys and circuitry in mobile and even jewelry, works as emitter and re-emitting of these fields and electromagnetic waves.

The natural frequency and health resulting from the body is 10 Hz, and is considered a higher frequency of this is harmful in the body, and can lead to psychological pressure and damage to the tissue.



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## ELECTROSTATIC FIELD OF ATMOSPHERE EFFECTS ON MALE AND FEMALE

Electrical design in human body. Electricity itself can be defined as the movement or current of small charged particles, usually electrons. Some substances, such as metals and various types of liquids, allow the movement of (or conduct) charged particles better than electrons in some cases. The harnessing of electricity has enabled us to develop devices which cause electrical energy to be transformed into some other form of energy, e.g. heat (cooking), light (electric bulbs), and motion (electric motors). The nervous system is composed of two parts: the central nervous system, which controls the brain and the spinal cord, and the peripheral nervous system, which consists of nerves connecting other parts of the body to the control centre. Via a combination of electrical and chemical processes, the nervous system is used to control the functioning of the entire human body, [4] . Body capacitance is a physical property of the human body that makes it act as a capacitor. Like any other electrically-conductive object, a human body can store electric charge if insulated. The actual amount of capacitance varies with the surroundings; it would be low when standing on top of a pole with nothing nearby, but high when leaning against an insulated, but grounded large metal surface, such as a household refrigerator, or a metal wall in a factory. Synthetic fabrics and friction can charge a human body to about 3 kV or so. Low potentials may not have any notable effect, but some electronic devices can be damaged by modest voltages of 100 volts. Electronics factories are very careful to prevent people from becoming charged up. A whole branch of the electronics industry deals with preventing static charge build-up and protecting products against electrostatic discharge [5]. The important finding of this study is that the human body when grounded is naturally protected from static electricity and the weak electric currents created in the body by electric fields radiation. The benefits of grounding the body are sleep significantly improves, muscles relax, chronic back and joint pain subsides and general health improves [6]. Static electricity and effects on health were tackled by some researchers, [7] The report highlights some of the more controversial claims asserted by experts in the electromagnetic field pertaining to the serious consequences of exposure to artificially generated electricity which is prevalent in our environment. This static electricity is produced by electrical equipment and by friction of synthetic furnishings. Condition known as electro stress Hyper-sensitivity (EHS) is used to describe the condition of being hyper-sensitive to static electricity and electro pollution in the environment. The shock of static electricity is observed in cold or hot, low humidity atmospheric conditions. Symptoms for the hypersensitive can range from mild to severe. Mild meaning muscle weakness/fatigue, clumsiness, dry eyes, memory lapses, and behavior problems. Photocopiers, air-conditioners, computers in the office, home appliances such as hair dryers, dishwashers, washing machines, cooling fans, and other equipment or appliances are known producers of static electricity when there is friction of air molecules.

The best way to discharge the body of positive electrical charge is by placing the forehead on the ground more than once [Ref]. As the Earth has negative charge, it discharges the positive charge from the body. Scientific studies have proved that Mecca and the Kaaba are at the center of the Earth's axis [Ref] Hence, the Islamic practice of offering prayers to the creator facing the Kaaba leads an optimization of discharging the positive charge from the body.

## METHODS

The Al-Sulyil Cohort Study is a prospective cohort study among 338, 36 men and women aged (18–70) years. Participants were followed-up for nervous system diseases (NSD) over a period of 12 months. Information on occupational history and potential confounders of



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participants, such as educational level and works. Occupational EF exposure was assigned using statistical analyses.

## RESULTS

The previous studies show that atmosphere electric static field affects human health. This encourages the researchers to study the health effects of Electrostatic Charge in the Biosphere at Al-Sulyil city in KSA. Censuses of nervous system diseases in E.R (Al-Sulyil G. hospital) from the time of month Nov./2011 to Oct./2012. It's found that, the maximum patients calculated from Jan. 2012 to May .2012 as shown on table (1)

**Table 1. Censuses of nervous system diseases from Nov./2011 to Oct./2012 in E.R , Al-Sulyil G. hospital, KSA**

| *Month* | *Nov 2011* | *Dec 2011* | *Jon 2012* | *Feb 2012* | *Mar 2012* | *Apr 2012* | *May 2012* | *Jon 2012* | *Jul 2012* | *Aug 2012* | *Sep 2012* | *Oct. 2012* | *Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | 2 | 4 | 5 | 4 | 5 | 5 | 17 | 2 | 2 | 5 | 10 | 2 | 63 |
| Female | 22 | 11 | 25 | 36 | 30 | 40 | 37 | 28 | 38 | 25 | 22 | 28 | 338 |
| Total | 24 | 15 | 30 | 40 | 35 | 45 | 54 | 30 | 40 | 30 | 32 | 30 | 401 |

On the other hand these months with low humidity atmospheric conditions than others / year. The shock of static electricity is observed in cold or hot, low humidity atmospheric conditions. So we can say the electrostatic charge at Al-Sulyil city in KSA, effect on health of Al-Sulyil people especially in their nervous system.

From the table (1) the number of patients (male) and (female) versus months was shown on figure (1) and (2) respectively.

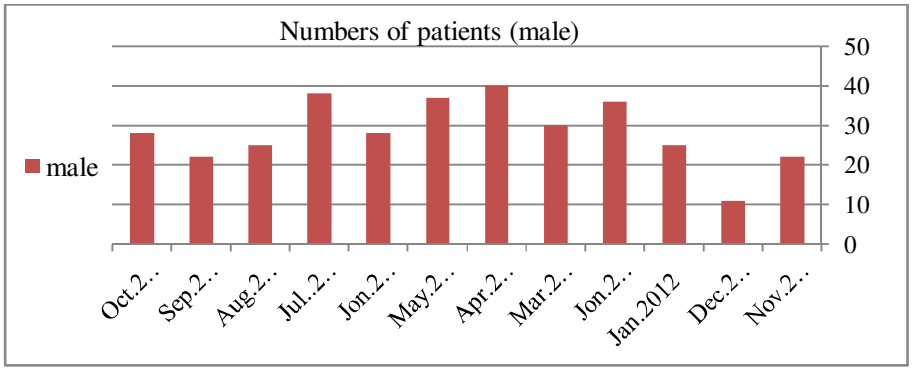


Figure 1. Shown the number of patients (male) per month

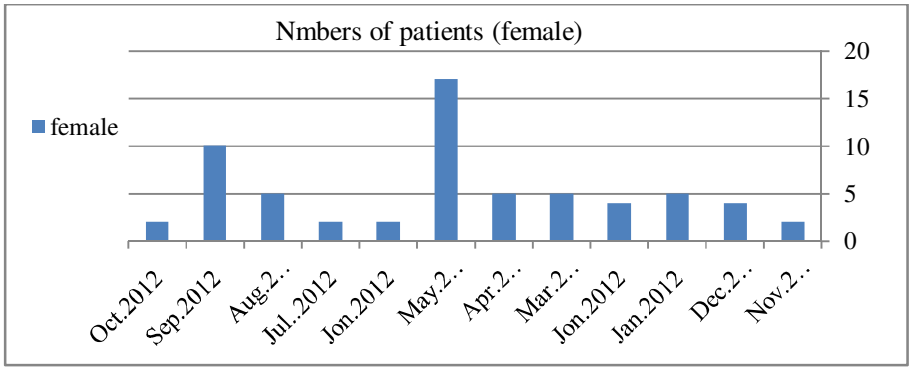


Figure 2. shown the number of patients (female) per month



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The flow up of partisbants, which Censuses of nervous system diseases from Nov./2011 to Oct./2012 in E.R , Al-Sulyil G. hospital, KSA. comparison effect of (EF) between men and women shown on graph (3)

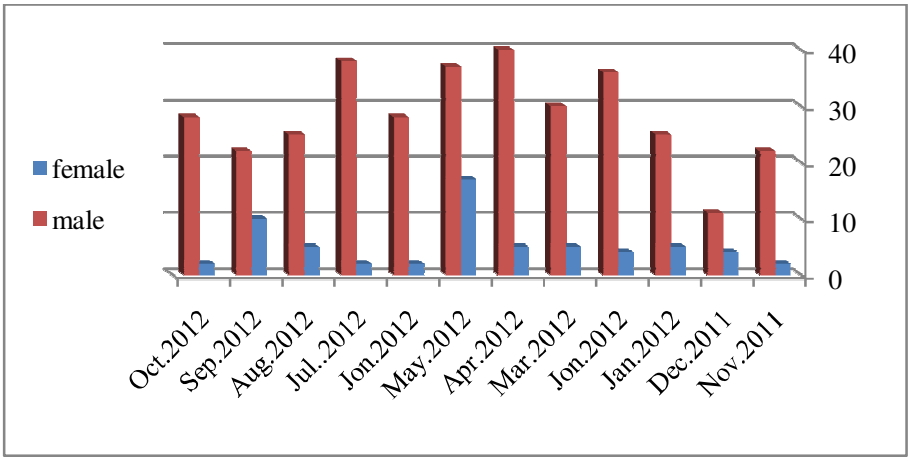


Figure 3. shown the comparison effect of (EF) between men and women from Nov./2011 to Oct./2012 in E.R , Al-Sulyil G. hospital, KSA

## DISCUSSION

Table (1) shows the number of patient, males and females, that suffer from nervous system at Al-Sulyil city in KSA in E.R (Al-Sulyil G. hospital) from Nov./2011 to Oct./2012. It's found that, the maximum patients are recorded at Jan. 2012 to May 2012. Because of these months are characterized with low humidity atmospheric conditions than others per year. The shock of static electricity is observed in cold or hot, low humidity atmospheric conditions .This result is in agreement by what observed by some researchers (ref and whom) . So, this may explains that the electrostatic charge at Al-Sulyil city in KSA, may affect Al-Sulyil people nervous system this much less exposed to free atmosphere causing nervous system diseases. Moreover, the data indicates that the men at this city are affected more than women which may be attributed to the fact that men are exposed to the free atmosphere more than women which stay in their houses.

From fig (1).we find that the a few of women which flow up at Al-Sulyil general hospital were compare with male as seen in figure (2). Figure (2) also shows that there are a huge number of male flow up at Al-Sulyil general hospital on month from January 2011 up to July 2012 compere with another months on the year

The comparison of number of patient's male and female which was shown clearly on Figure (3) indicate that the number of male was very large compare with female. From background feature of the patients, humidity increases the negative effect, and its effect on men than women because men's movement outside the home where they are exposed to humidity and electrostatic field

## CONCLUSION

The study shed light on possible link between low humidity, which is responsible for human static electric shake, an increase of nervous system diseases. More researches are need to confirm this suggested link. Moreover, the men at this city are affected more than women, which need to be study by more researches of this point in the future.


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## RECOMMENDATION

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## REFERENCES

[1] Elbendary, A., and Alfalih, A. (2013). Studying the Amount of Electrostatic Charge in the Biosphere at Al-Sulyil City. *International Review of Physics (IREPHY), 7*(2), 219-222.

[2] Michael, F. (1839). *Experimental Researches in Electricity.* London: Royal Inst.

[3] Middleton, J., Castle, G. S. P. & Inculet, I. I. (1987). "Use of an Electric Field Meter for the Continuous Measurement of Mass Emissions from Inco's Copper Cliff Smelter". Proceedings of the *Third International Conference on Electrostatic Precipitation, Abano/Padova - Italy, October 25-29*.

[4] Savige, Craig (1999). Electrical design in human body. Online Available at: www.answersingenesis.org/articles/cm/v22/n1/electrical-design-in-the-human-body

[5] Henry, L. G. et al., (2010). *Part Five--Device Sensitivity and Testing*. Rome, NY: ESD Association.

[6] National Institute of Environmental Health Sciences and the U.S. Department of Energy (1995). Questions and Answers about EMF, electric and magnetic fields associated with use of electric power-1995.

[7] Worthman, C. M. (1999). Anthropologist, Emory University Atlanta, GA, Slumbers Unexplored Landscape.



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**Authors' Profile**

**Asma Mohammed Elbashir Saad**, B.Sc. Physics, Faculty of Education, Khartoum University, Dec. 1994; M.Sc. MRI Physics, Faculty of Science, Sudan University for Science and Technology, June 2003; Ph.D. MRI Physics, Faculty of Education, AlZaiem Al Azhari University, Sudan, June 2011. (April 1995 - August 1998) Teacher of Physics at Ministry of Education, Sudan Secondary Schools. From 1998–1999, Teacher in UAE. From 2001-2003 Assistant Teacher at Physics Department, Faculty of Education, AlZaiem Al Azhari University. From 2003-2004, Lecturer, KSA A Ghorma Girls College. 2003-2011 Lecturer. 2011 till now Asst. Prof. Physics Department, Faculty of Education, with working as Asst. Prof. at Faculty of Science and Humanities, Salman Bin Abdul-Aziz University, Al-Sulayyil, KSA from 2011--2013.

**Atef Ahmed Elbendary**, B.Sc. Physics, Faculty of Science, Tanta University, June 1990, M.Sc. Plasma Physics, Faculty of Science, Tanta University, Dec. 1996., Ph.D. Plasma Physics, Faculty of Science, Tanta University, Jan. 2004.with Scholarship at Applied Physics Department, Kuopio University, Finland, from 2001 to 2003. Visiting College at ECE, UNM, US.From 9/2008-11/2008.Lecturer at Physics Department, Faculty of Science, Tanta University, Egypt, from 2004 till now, with working as Ass.Prof. at Faculty of Science and Humanity studies, Selman Bin Abdul-Aziz University, Al-Sulyil, KSA from 2011-2013.Recent research interest**;**

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Adv. Studies Theor. Phys., 2012, Vol. 6, no. 18, 863 – 868.

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**Abdullah Msaad Alfalih**, Department of Botany and Microbiology, College of Science, P.O. Box 2455, Riyadh-11451, Saudi Arabia, March 20, 1995 Ph.D. in Soil Microbiology, from the Department of Molecular Biology and Biotechnology, University of Sheffield, United Kingdom. Thesis entitled "The Microbiology of Soils Receiving High Concentrations of Sucrose from a Natural Source." 17August, 1991 M.Sc. in Botany and Microbiology, from the Department of Botany and Microbiology, College of Science King Saud University. Riyadh, Saudi Arabia. Thesis entitled "Ecological Studies on the Effect of Irrigation with Treated Sewage Water on Soil Physical, Chemical and Bacterial population." 25January, 1987 B.Sc., Excellent with Second Class Honours in Biology, from the Department of Biology, College of Education King Saud University. Riyadh, Saudi Arabia.Recent research; Phosphate solubilization *in vitro* by some soil yeasts.Qatar Univ Sci. Journal.(2005). Vol. 25 pp. 119-125., Nitrogen transformation *in Vitro* by some soil yeasts.Saudi. J. Bio. Sci. (2006). Vol. 13, No. 2, pp.135-140.,The role of soil yeasts in sulphur oxidation. 3rd European Federation of Biotechnology Conference (2007).



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