

TETRA Industry Group

PO Box 1005, Berkhamsted, Herts HP4 3ZW

Or e-mail enquiries@tetrahealth.info

James Rubin – King's College London

James Rubin is a psychologist who has spent the past 3 – 4 years looking at sensitivity to signals from mobile and TETRA handsets. The work had its genesis in the Stewart report which mentioned early anecdotal evidence of symptoms such as headaches and body-warming being experienced by some users that they attributed to the use of the handsets.

The definition of electro-sensitivity is extremely broad and covers a long list of symptoms, many of which we all experience from time to time. Electro-sensitivity is attributed to a wide variety of sources both natural and artificial.

There is variation by country – for example 10% of Germans believe they are electro-sensitive, but 0% of Iranians. In 1994 UK prevalence of electro-sensitivity was 0% and by 2004 it was 4%.

To test whether exposure to a mobile phone signal affected people who claim to be electro-sensitive a double blind random provocation study was conducted, using two volunteer groups – one experiencing no symptoms and one self diagnosing as electro-sensitive.

Three exposure conditions were used – a 900 MHz GSM signal, a non pulsing carrier wave, and a sham signal. Each participant was exposed to all three conditions in a random order, separated by at least 24 hours, with neither participant nor researcher knowing the order of exposure to the three conditions.

No statistically significant difference was found – the sham signal caused as many headaches as the active exposures. Neither the control group nor the group claiming to be electro-sensitive could tell whether they were being subjected to sham or active exposure.

A review was conducted to look for replication of this work. Of 31 blind or double blind studies only 7 had reported significant effects. Of these 2 could not be replicated even by the same research team; 3 had obvious statistical problems and 2 were mutually contradictory (one causing symptoms that made subjects feel better and one worse)/.

The conclusion was that there was no evidence that exposure to a mobile phone signal caused symptoms. A further 15 studies produced similar results and the evidence for the existence of electro-sensitivity as a biological condition was further weakened.

None of these studies has used a TETRA handset so the Kings College London team conducted a study of police officers using TETRA handset signals instead of GSM signals and using the same double blind random provocation methodology.

Each participant as asked a number of baseline questions on how they were feeling to determine whether anything in the testing environment was causing symptoms. The

exposure conditions were tested and the participants were followed up the next day to determine whether there were any longer term effects.

Most of the participants in the sensitive group were experiencing headaches and described the onset of these as occurring within 10 minutes of using a TETRA handset. 13 of the 60 suggested that the symptoms were sufficiently serious to impair their working ability.

The results of the study are under peer review at the moment and should be available soon. The TETRA Industry Group will arrange for the results to be made known to seminar participants once they are published.

It is also notable that when new technology is deployed it is often accompanied by operational changes, training, and so on – such changes can be stressful and stress can trigger symptoms. Some police officers have suggested that the new system placed more choices and control with them as opposed to being directed by the control room and this may be more stressful for some people.

Questions

1 What is the statistical power of a study?

The power relates to the statistical certainty of the results, and the key is to use a sufficiently large sample size to detect an effect.

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