

פרופ' אולה יוהנסון, ממכון קרולינסקה בשטוקהולם, נדהם שביטלו את הכנס "קרינה בלתי מייננת – השפעות בריאותיות ורגישות לקרינה" באוניברסיטת תל אביב ושלא מכירים בארץ ברגישות לקרינה כנכות תפקודית.
הוא כתב:

This is utterly strange!? I don't understand how a conference about an official functional impairment/disability ever can be cancelled .., it is a strong violation of the special 2007 UN Convention on Human Rights for Persons with Functional Impairments. Was it organized according to it?

I will soon travel to Denmark and lecture about the functional impairment electrohypersensitivity, and it always gives me such a pleasure to include quotes from *i.a.* Dr. Yael Stein, at the Department of Anesthesiology and Critical Care Medicine, Hebrew University-Hadassah Medical Center, Jerusalem, Israel!

Can I do something for you to get the conference back on the road?

לדברי פרופ' יוהנסון, בטייואן מצאו אפילו 13.5% רגישי קרינה בסקר באוכלוסייה הכללית.

הוא ציין דרך לטשטש הנתונים בעזרת קטלוג כ"מוגבלות תפקודית" (עם עוד נכויות תפקודיות) ולא כ"רגישות לקרינה" – מוריד שכיחות באופן מלאכותי בנתונים היבשים. זה ברמת המאקרו. ברמת המיקרו - בכל העולם רגישי קרינה מתייאשים מהמאבק להכרה ומוכנים "להתאים" תלונות כדי לקבל עזרה כלשהי תחת כל תיוג מקובל (במקומות בהם אין הכרה ברגישות לקרינה). הם מאובחנים תחת "שחיקה" (BURN OUT) "כאב כרוני", "מיגרנה", "פיברומיאלגיה" או "פוסט-טראומה" ואפילו "דיכאון" (שאף אחד מהם לא ניתן "להוכיח" – מתבססים על דיווח עצמי ללא אבחנה אובייקטיבית, שעדיין נדרשת רק מרגישות לקרינה המותקפת כל כך).
כל אלו "תסמונות" ולא "מחלות" - שמות שהם פח זבל אבחנתי שאומר "אין לנו מושג". זה גורם לירידה מלאכותית בנתוני "רגישות לקרינה" ועלייה באבחונים אחרים, כך "מועלמת" הבעיה.. כאילו הטכנולוגיה בטוחה.

סקרים ברחבי העולם מצאו כי 3-13.5% מהאוכלוסייה חשים תסמינים בזמן, או לאחר, חשיפה לקרינה אלקטרומגנטית.

(מדבריה של [דר' יעל שטיין בפורום מומחים באוניברסיטת תל אביב, פברואר 2020](#))
בהערכה צנועה, לדעתו של פרופ' אולה יוהנסון (מכון קרולינסקה בשבדיה), מדובר ב- 350,000 מיליון איש ברחבי העולם – חישוב לפי השיעור שנמצא בשבדיה (3% ב-2006).
בארץ, סביר להניח שיש לפחות 300,000 – אם נתייחס להערכה הנמוכה ביותר (3%).
קיימות הערכות גבוהות בהרבה.

כל אלה סובלים מקרינה שפולשת מהמרחב הציבורי ללא הסכמה.
חלקם מודעים למקור הסבל, מצמצמים שימוש אישי עד הימנעות מוחלטת – אך ממשיכים לסבול עקב פלישת הקרינה גם למרחב פרטי.

הרוב כלל לא מודעים למקור הסבל – ואין כל מערכת שיודעת לזהות ולסייע להם:

- נשלחים לבדיקות מיותרות (יקרות ואף מזיקות)
- מקבלים משככי כאבים וכדורים פסיכיאטריים, שלא מסייעים (ולרוב מחמירים את המצב – חלק ניכר מרגישי הקרינה רגישים גם לכימיקלים).

סקרים מהעולם על EHS - מתוך תכתובת עם פרופ' אולה יוהנסון

.. maybe these figures could help?

(Note that the report you ask for is in Swedish, and I do not have it in my hands any longer since I had to throw away practically everything of my huge archive when I was forced to retire from my position at the Karolinska Institute. The report was based on asking persons if they regarded themselves e.g. as EHS and/or MCS; I do not believe any questionnaires actually were used. The complete reference to it is: Miljöhälsorapport 2001, The National Board of Health and Welfare (in Swedish; ISBN: 91-7201-495-4).)

However, in addition, the estimated total number, country-by-country, on the planet of EHS persons has been reported to be somewhere between 3.5 - 13.3% (the latter found in Taiwan, 2007).

This means, of the 7.4 billion people on the planet, that approx. 259 - 992 million people are EHS. (From my own calculations, I arrived at around 350 million people.)

In Sweden the prevalence of EHS was first estimated at 1.5% [5] and a newer estimate is 2.6 - 3.2% [6]. In Austria the prevalence was estimated to be less than 2% in 1994 but it had increased to 3.5% in 2001 [7]. In Switzerland 5% of the population has been estimated to suffer from EHS [8]. In California the prevalence of self-reported sensitivity to electromagnetic fields was 3.2% and with 24.4% of those surveyed reporting sensitivity to chemicals as well [9]. Finally, the Canadian Human Rights Commission reported that approximately 3% of Canadians have been diagnosed with environmental sensitivities, including chemicals and EMFs in their environment [10]. In the report the author especially recommended improving the environmental quality at work places.

[5] L. Hillert, N. Berglind, B.B. Arnetz, T. Bellander, Prevalence of self-reported hypersensitivity to electric or magnetic fields in a population based questionnaire survey, *Scand J Work Environ Health*, 28(1) (2002) 33-41.

[6] O. Johansson, Electrohypersensitivity: State-of-the art of a functional impairment, *Electromagn. Biol. Med.* 25 (2006) 245-258.

[7] J. Schröttner, N. Leitgeb, Sensitivity to electricity-temporal changes in Austria, *BMC Public Health*, 8 (2008) 310.

[8] N. Schreier, A. Huss, M. Röösl, The prevalence of symptoms attributed to electromagnetic field exposure: a cross-sectional representative survey in Switzerland, *Soz Präventivmed* 51(4) (2006) 202-209.

[9] P. Levallois, R. Neutra, G. Lee, L. Histova, Study of self reported hypersensitivity to electromagnetic fields in California, *Environ. Health. Perspect.* 110 (2002) 619-623.

[10] M.E. Sears, The Medical Perspective on Environmental Sensitivities, Canadian Human Rights Commission (2007).

It is always difficult-to-very-difficult to evaluate such prevalence studies, due to a number of different factors and confounders, and it is especially hard when there is no unison definition of the category in question (as you know, in Sweden most persons with the functional impairment electrohypersensitivity are not recorded to any disease registers). But even so, of course the current figures are not easily swept under any carpet, and world-wide it is fair to estimate the total prevalence to be in the order of 350 million people (!), or more.

A 2013 study using telephone surveys in Taiwan concluded that the rates of so-called "idiopathic environmental intolerance attributed to electromagnetic fields" (IEI-EMF) were in decline within the country, despite previous expectations of a rise in prevalence as electronic devices became more widespread. Rates declined from 13.3% in 2007 to 4.6% in 2013 [11]. The study also referred to apparent declines in the Netherlands (from 7.0% in 2009 [12], to 3.5% in 2011 [13]) and in Germany (from 10.0% in 2009 to 7.0% in 2013 [14]). From a Swedish point of view, the figures may behave differently since most EHS persons would not be able to take any telephone calls due to their electrohypersensitivity, especially not more severe cases.

[11] P.-C. Huang, M.-T. Cheng, H.-R. Guo, Representative survey on idiopathic environmental intolerance attributed to electromagnetic fields in Taiwan and comparison with the international literature, *Environ Health* 17(1) (2018) 5-21.

[12] D. van Dongen, T. Smid, D.R.M. Timmermans, Symptom attribution and risk perception in individuals with idiopathic environmental intolerance to electromagnetic fields and in the general population, *Perspect Public Health* 134 (2014) 160-168.

[13] C. Baliatsas, I. van Kamp, M. Hooiveld, J. Yzermans, E. Lebet, Comparing non-specific physical symptoms in environmentally sensitive patients: prevalence, duration, functional status and illness behavior, *J Psychosom Res* 76 (2014) 405-413.

[14] H. Lauff, A. Wachenfeld, Differenzierte Betrachtung der Nutzung und der Wahrnehmung des Mobilfunks (Abschlussbericht; PDF), Bundesamt für Strahlenschutz (BfS): BfS-RESFOR-88/14, January 1 (2016).

Unfortunately, I nowadays often meet persons that have given up on the EHS part, and instead have accepted other medical and/or psychiatric diagnoses, just to enable them to receive some form of economical compensation, medical treatment, sick-leave, help, etc. Such persons will, of course, not be found under the correct entry, and therefore automatically decrease the prevalence figures of official records. (In most countries around the world, the official records do not even have an entry for EHS.) Finally, I say again, if you would look for EHS *patients* in the Swedish registers you would miss them since they are recognized as *persons with a functional impairment*, and as such they are not regarded as patients, only the toxic environment is, and it is it which should be diagnosed and treated.

Regarding symptoms and doctors, please, remember again that in Sweden people with electrohypersensitivity are not patients (only the environment is), but rather persons with a functional impairment/disability. The symptoms as they were described already in 1994 stand still today, with some variations. I enclose a PowerPoint image you can look at (see slide no. 2; also note that 1994 the EHS persons were wrongly labeled "patients" and "electrosensitive" by the journalist Åsa Moberg).

In addition to it, when we did a study in 2005, Holmboe G, Johansson O, "Symptombeskrivning samt förekomst av IgE och positiv Phadiatop Combi hos personer med funktionsnedsättningen elöverkänslighet", (= "Description of symptoms as well as occurrence of IgE and positive Phadiatop Combi in persons with the physical impairment electrohypersensitivity", in Swedish), Medicinsk Access 2005; 1 (5): 58-63, only one symptom was found in every EHS person, namely tinnitus.

The symptoms of EHS are classified as an occupationally-related symptom-based diagnosis (code ICD-10; R68.8/ now W90) by the Nordic Council of Ministers since 2000 (DIVS: 2000:839; ISBN: 92-893-0559-2, http://www.nordclass.se/ICD-10_Nordic%20Occupational_2000.pdf).

The question of the exact cause of the EHS symptoms and problems has been debated very vividly, as you know, dear Gal. Professor Bengt Arnetz, of the Uppsala University, Department of Applied Psychiatry, was able to present - at the hearing of the Swedish Council for Working Life Research on February 1, 1996 - his research results which completely excluded that it would be a psychologically or psychiatrically more burdened category of people, apart from one point, and this is extremely interesting (!), they actually could stand harassment somewhat better than the other normal population. (It's like if you have a dog, the first time you kick the dog it will get very annoyed and alarmed, but if you continue to kick it, it will get used to it and that's what is shown in this particular study at the Uppsala University that the electrohypersensitive persons counted on receiving always some slandering and bullying, so they could withstand it better than the normal population. That was the only point where they differed, otherwise they were completely normal psychologically and psychiatrically.)

few other good papers about the symptomatology:

Kato Y, Johansson O, "Reported functional impairments of electrohypersensitive Japanese: A questionnaire survey", Pathophysiology 2012a; 19: 95-100 [enclosed as a pdf]

Kato Y, Johansson O, "The situation of electrohypersensitivity: Symptoms, EMF sources, economic and social problems, and precautionary approach", Jap J Clin Ecol 2012b; 21: 123-130 [enclosed as a pdf]

I would say that some kind of tolerance is developed, not for everyone, and not always, and the tolerance to me seems to be of a behavioural type, i.e. people learn how to identify and avoid unnecessary toxic exposures.

It is certainly and definitely a problem that there are no non-exposure areas any longer in 'modern' countries.

I agree regarding the passive/active cover-up; when EHS persons give up, it does suit the politicians, the industry, and the finance sector.

Finally, I am engaged in a number of different projects, some of them summarized in this fundraiser call (please, if possible, share it widely, we are constantly struggling to get hold of the necessary funding, you see.): <https://www.emfsa.co.za/news/fundraiser-to-support-associate-professor-olle-johanssons-ongoing-research/>

The electrohyposensitive notion can be found in several of my presentations and papers, like this one:

Johansson O, "To understand adverse health effects of artificial electromagnetic fields... ..is "rocket science" needed or just common sense?", In: Essays on Consciousness – Towards a New Paradigm (ed. I. Fredriksson), Balboa Press, Bloomington, IN, USA, 2018b, pp 1-38, ISBN 978-1-9822-0811-0 [enclosed as a pdf; see page 8!]

בתקצירי כנס פריז על רגישות לקרינה ולכימיקלים - 2015 - עמוד 36 מופיע אולה יוהנסון
http://www.ehs-mcs.org/fichiers/1432301961_Paris_Appeal_2015.pdf

תקציר מדבריו של אולה יוהנסון באתר העמותה + קטע קצר מצוין מראיון מצולם + קישורים
<https://ehs.org.il/%d7%a4%d7%a8%d7%95%d7%a4-%d7%90%d7%95%d7%9c%d7%94-%d7%99%d7%95%d7%94%d7%a0%d7%a1%d7%95%d7%9f-%d7%a2%d7%9c-%d7%a8%d7%92%d7%99%d7%a9%d7%95%d7%aa-%d7%9c%d7%a7%d7%a8%d7%99%d7%a0%d7%94-%d7%91%d7%9c%d7%aa/>

בוידאו הקצר - פרופ' יוהנסון מסביר כי כולם רגישים לקרינה. הרי אם תכניסו אצבעות לשקע תרגישו טוב טוב את החשמל (קרינה אלקטרומגנטית). לגבי רגישות יתר לקרינה (היפר-סנסיטיב), כלומר מי שנקראים רגישים לקרינה.. במצב של רמות הקרינה הבלתי מייננת הגבוהות מאד בעולם היום זה בעצם מצב "נורמלי". כך כתב בספר ובמאמרים לפני שנה (זוהי מה שהוא אומר בקטע קצר זה. לדעתו, מי שלא מרגישים את הקרינה הבלתי מייננת הגבוהה היום הם היפר-סנסיטיב.. כלומר רגישות-חסר (גם הוא לא מרגיש, אגב, אבל שומר על עצמו ונמנע מחשיפה)

(בפוסט קטע וידאו שנגזר מתוך ראיון בסקייפ לפני כנס על רגישות לקרינה ולכימיקלים בקליפורניה 2019 – קישור בתחתית הפוסט)

מאמר של יוהנסון על רגישות לקרינה
<https://pubmed.ncbi.nlm.nih.gov/17178584/>