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An informed critique of Modern myths about cancer – from ‘chemicals’ in food to wifi

Dear Ms. Taylor,

ORSAA is writing to you with reference to the article titled **“Modern myths about cancer – from ‘chemicals’ in food to wifi”** by Naomi Elster [published](#) on Mon 20 Aug 2018 in the Australian Edition of the Guardian.

ORSAA is the only independent scientific organization in the Aust-NZ region currently investigating the scientific evidence for biological/health effects of wireless radiation; i.e., radiofrequency electromagnetic radiation (RF-EMR). The volunteer scientists at ORSAA have constructed the world’s largest categorised [database](#) of peer-reviewed studies regarding RF-EMR biological/health studies. The ORSAA database currently contains over 3100 scientific studies sourced from all over the world. As a result, ORSAA is very concerned that the above referenced article has given misleading information about the current science and has thereby put public health at risk. The article presents a view which although it contradicts the body of current scientific evidence, is promoted by those with vested interests such as the wireless industry and governments which draw massive revenues from this billion-dollar global industry.

The weight of the scientific evidence now clearly shows harmful biological effects and in some cases clear adverse health effects from long-term exposure to RF-EMR. These health effects include but are not limited to an increase in the risk of cancer. Please find below some salient points which clearly refute the claims made in the **Modern myths about cancer** article:

1. The manner in which the article describes the meaning of the World Health Organisation’s (WHO) classification of RF-EMR as a “possible carcinogen” is distorted. The explanation given in the article that: *“this classification means only that there may be a hypothetical link that cannot be ruled out, rather than that there is a real likelihood of something causing cancer.”* is not true to the intended meaning of the term “possible”. In May 2011 in Lyon, France, the International Agency for Research on Cancer (i.e., IARC, an arm of the WHO) gathered a panel of 30 experts to evaluate the empirical evidence linking wireless radiation (RF-EMR) with cancer. The available evidence was considered “limited”, and this fact, along with no adequate explanation being available for a mechanism for carcinogenesis, caused the panel to settle for a “2B possible carcinogen” classification as they could not agree on a higher classification [1]. The IARC’s definition of “limited evidence” was that: *“A positive association has been observed between exposure to the agent and cancer **for which a causal interpretation is considered by the Working Group to be credible, but chance, bias or confounding could not be ruled out with reasonable confidence.**”* At the time, Dr Jonathan Samet the overall

Chairman of the Working Group, indicated that "*the evidence, while still accumulating, is strong enough to support a conclusion and the 2B classification. The conclusion means that there could be some risk, and therefore we need to keep a close watch for a link between cell phones and cancer risk*"[2]. Furthermore, since 2011, further stronger evidence has emerged and the plausible mechanism of oxidative stress is currently being established, thereby building a case for classifying RF-EMR (from any wireless source) as a Group 1 carcinogen [3].

- The **Modern myths about cancer** article claims that the Interphone study showed that mobile phone use "*did not increase a person's chance of getting a brain tumour*". This statement is a distortion of the findings from that study. It is true that the pooled data from 13 countries showed no significant overall effect for combined brain tumours (meningioma and glioma). However, the results did show a 40% increased risk for glioma type brain cancers for those who used their phones for more than 1,640 hours cumulatively (see the data in Table 2 of the Interphone study final publication [1]). Moreover, this risk doubled (to a 100% increase in risk) when the brain cancer was located on the same side of the head where the mobile phone was used, as demonstrated by an Odds Ratio of 1.96 (95% confidence interval: 1.22–3.16; see Table 5). The Head of the Australian arm of the Interphone study, Prof. Bruce Armstrong of the University of Sydney, can verify these results. It should be noted that [many flaws have been identified](#) in that study, such as designating a "regular user" to be a person who made a single phone call per week for 6 months, thereby weakening the likelihood of finding any statistically significant effects for regular users. This flaw is analogous looking for effects of smoking on regular users but then defining regular smokers as those who smoke a single cigarette per week for 6 months. Furthermore, It is unlikely that the Interphone study's definitions of high use ([1640 hrs, which over 10 years represents only 30 minutes per day](#)) is representative of modern patterns of high use. Despite such flaws, the Interphone study still showed an increase in cancer risks for high phone usage.
- The **Modern myths about cancer** article has ignored other prominent studies showing a significant increase in brain cancer risk associated with mobile phone use. These include the large French CERENAT study [5] and the Swedish Hardell group studies [6] which have investigated several thousand brain cancer cases. The latest meta-analysis of all the 24 case controlled studies (26,846 brain tumour cases compared with 50,013 controls) [7] shows a significant increase in risk of intracranial tumours (especially gliomas/glioblastomas) associated with long term use (>10 yrs) of mobile phones. That is, current epidemiological evidence indicates a very real increase in the risk of brain cancer with wireless phone use, despite claims to the contrary.
- The article ignores evidence showing that gliomas have been on the increase with the most aggressive being glioblastomas (GBM). For example, the GBM incidence rate has more than doubled over the last two decades in UK [8], and studies from Netherlands [9], USA [10], Australia [11], Tunisia [12] and Israel [13] report similar trends which correlate with wireless phone use.
- The article takes the spotlight away from the causes of cancer as being man-made environmental factors by suggesting that "*thinking of cancer as a result of modern life causes unnecessary fear*". In fact, there is much evidence linking cancer to human-introduced environmental factors and lifestyles in affluent urbanised societies. The cancer snapshot of the world created by the WHO's International Agency for Research on Cancer (<http://globocan.iarc.fr/Pages/Map.aspx>) shows that the highest cancer incidence rates (new cancer diagnosis rate) occur in the most developed Western-style industrialised countries. In general, cancer incidence rates vary with socioeconomic status, they are more associated with urban life than rural life and they cannot be explained using hereditary factors. For example, South Korea, the most techno-embracing society in the world has a higher rate (308 new

cases diagnosed per 100,000 people) than their less technologically developed neighbour, North Korea (181 cases per 100,000). Lifestyle and dietary factors seem to be the cause of the differences in cancer rates (after the effects of smoking have been considered).

- The **Modern myths about cancer** article incorrectly claims that RF-EMR from mobile phones and Wi-Fi cannot damage DNA *“Breaking or stressing DNA requires a great deal of energy, far beyond the capabilities of mobile phones”*. In fact, RF-EMR (wireless radiation from mobile phones, Wi-Fi etc.) can damage DNA at low-level exposures. This has been shown in over 100 peer-reviewed studies that are summarised in the ORSAA database (www.orsaa.org). A review of 43 of these papers was conducted by Prof. Hugo Rudiger in 2009 [14]. More recently, a large rodent study by the US National Toxicology Program (costing \$25M) has confirmed that mobile phone radiation can damage DNA and promote cancer [15]. This finding has been confirmed by a large Italian study at the Ramazzini Institute [16]. Interestingly the glioma type brain tumours and schwannomas associated with mobile phone use in human epidemiology studies were the same types of cancers that occurred in the NTP rats. Further evidence for DNA damage has come from researchers in India who have recently found increased DNA damage and increased oxidative stress (that can cause DNA damage and other types of cellular damage) in healthy young people living close to mobile phone base stations (masts), independent of other factors [17,18]. Finally, a large Brazilian population study recently conducted around hundreds of mobile phone base stations has shown a significantly increased cancer death rate with proximity to the base stations [19]. Unfortunately, no such studies are being conducted by Australia or its Western allies.

Objective reports from the ORSAA database have revealed that research outcomes on RF-EMR have an apparent bias which is related to funding-sources, with industry/government communication department funded research having largely reported ‘no effect’ results [20] (attached). In contrast to public conversations which downplay the health risks and which are fuelled by such biased interests, ORSAA calls for an immediate reduction in exposure levels currently allowed by government regulatory bodies for the public [21] (attached).

Accordingly, ORSAA implores media agencies such as the Guardian to maintain their adherence to social responsibility by reporting from unbiased expert opinions and from credible medical organisations such as the European [22] and American Academies [23] of Environmental Medicine. ORSAA strongly recommends that reporters conduct independent research, and refrain from reporting second-hand views possibly fashioned by scientists/government agencies/NGOs with serious financial conflicts of interest or close ties to very powerful telecommunication and energy industries.

Such efforts will assist the world to avoid repeating mistakes such as the coverup and the human tragedy created by Big Tobacco, which advanced with the assistance of the media at that time. On 14th April 1954, the New York Times published statements of 36 distinguished authorities denying the link between smoking and lung cancer [24]. This was a document prepared by the Tobacco Industry Research Committee, which included top “experts” in the field of cancer; i.e. those whose credibility was unquestioned by the public, and who in spite of their positions of great responsibility, made statements such as:

“If excessive smoking actually plays a role in the production of lung cancer, it seems to be a minor one” Dr. W. C. Heuper, the National Cancer Institute USA

"I do not think the evidence is convincing enough to establish as a positive fact that cigarette smoking is necessarily the cause of cancer of the lung" Dr. Walter B. Martin, President – American Medical Association.

ORSAA urges The Guardian to consider retracting the **Modern myths about cancer** article from such a reputable paper, as a service to the public. ORSAA also requests that this rebuttal letter be published with necessary formatting changes according to your guidelines. We look forward to your response to the above concerns and action. Please contact us for further information. ORSAA scientists are happy to be interviewed by media wanting to hear the other side of the story from an evidence-based approach, free of vested interests.

Yours sincerely,



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