NEAR ELECTROMAGNETIC FIELDS -INDUCED SYNDROME: NEWLY RECOGNISED AND UNSUSPECTED

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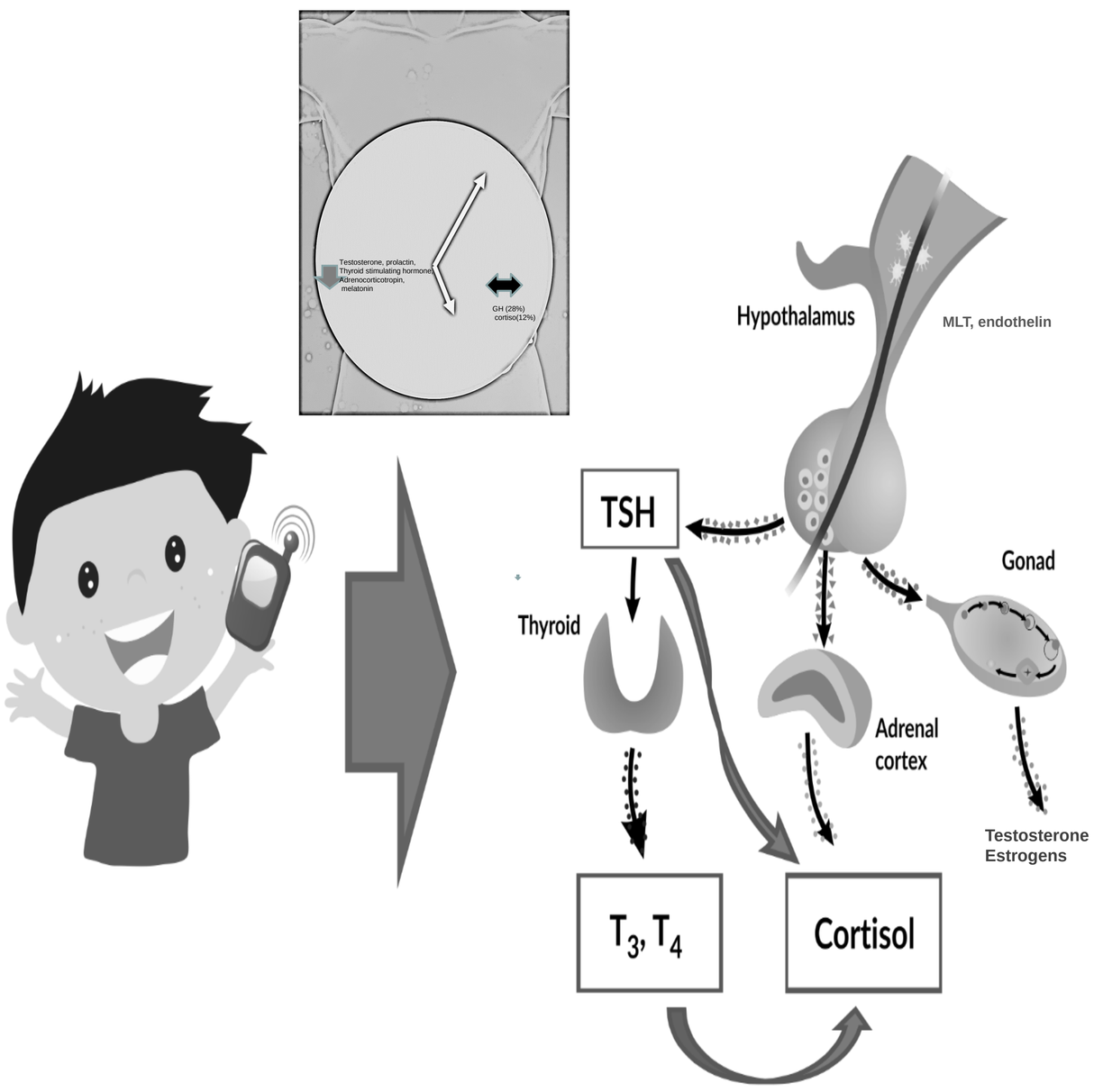
BACKGROUND

According to the European Health Risk Assessment Network (EFHRAN) on *EMF exposure Report,* 'the cell phone consists the source that is responsible for the 60% of the total electromagnetic radiation that a person may be exposed to" (EFHRAN 2010). It seems that scientists need to investigate this new environmental/lifestyle agent for its health impact.

METHODS

The PRISMA protocol has been applied so as to
Endocrine assessment is restrained to stress and reproductive hormones, awakening response, melatonin, thyroid hormones and growth factors. Their acute response and circadian disturbances have also been addressed. The selected studies are presented in accordance to the end-organ responses evoked after the hypothalamus-pituitary (HP)-end-organ response of the five main endocrine axes: gonadal axis (HPG), adrenal axis (HPA), thyroid axis (HPT), somatotrophic axis and other hormones (i.e. melatonin).

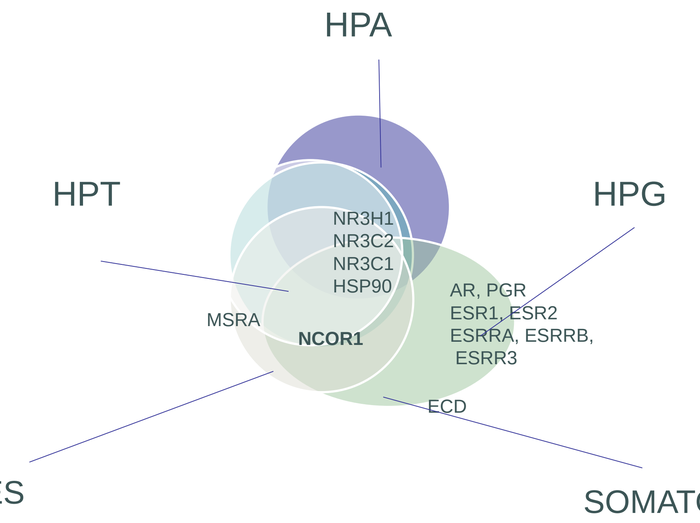


OBJECTIVES & HYPOTHESES

The present study targets to evidence-based data investigating the impact of a common environmental hazard, the radiofrequency fields (RF), such as cell phones, cell phones base stations, wi-fi, portable phones (DECT), etc. (considered as "close to the body sources of exposure"), on the endocrine function of humans.

RESULTS

The results are presented in figures and summarized in a Table as follows



	HPA	HPT	HPG	Somatotrophic	other		G	
↑	Cortisol	T3 T4 TSH	Testosterone PRL Progesterone Estradiol		Sal MLT		2G 3G	
↓	Cortisol Sal. cortisol	T3 T4 TSH	Progesterone testosterone PRL	GH	Ur. MLT Endothelin Sal MLT		2G 3G	
=	Cortisol Epinephrin Norepinephrin ACTH	T3 TSH	FSH LH PRL estradiol	GH	MLT		2G 3G	
Circ. rhythms		TSH	Testosterone PRL				2G 3G	
Studies	18	11	11	5	9			

CONCLUSIONS

Endocrine response to RFs exposure: a. is present below ICNIRP limits, affecting all endocrine axes and circadian rhythms, b. are age/long term exposure/ frequency field dependent c. appear to be initiated by the thyroid hormones, d. R1 steroids nuclear receptors integrates all suggested explanatory mechanisms of all reported effects, structurally and functionally preserved in evolution: more importantly, its major hub is a thyroid modulator (NCOR1) e. suggest that it may be part of the (herein suggested) "EMF –induced syndrome EMFIS" concerning all general populations.

References

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There is no conflict of interest

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