

ABSTRACT

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Magnetic field-exposed *Silicea terra* 24cH at different magnitudes and its effect on *Artemia salina* development: preliminary results

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Introduction: This study follows a new line of research using the *Artemia* spp model to investigate the effects of homeopathic medicines' magnetic field exposure on biological and physicochemical parameters. Previous results obtained from saxitoxin 200cH isotherapeutics exposed to a unidirectional 0.24 Tesla magnetic field and used to treat heat shock-exposed *Artemia franciscana* cysts during the hatching period showed reversion of the cyst hatching and nauplii vitality rates increase, and higher statistical variance [1]. **Methods:** Herein, we tested *Silicea terra* 24cH prepared in sterile purified water in a similar experiment but with varying magnetic field intensities. The potency 24cH was chosen from a previous pilot study [2]. *Artemia salina* cysts were seeded into artificial seawater in 96-well plates in triplicate, exposed to 25ppm of *Silicea terra*, sterile purified water (SPW), succussed SPW (vehicle controls), or *Silicea terra* 24cH submitted to different magnetic fields for 10 minutes, varying from 0.07 to 0.24 Tesla, 24 hours before use. Plates were kept in a steel cabinet under stable lightening, temperature (25.5% average), humidity (57% average), and geomagnetic field (0.7 μ T average). The plates were exposed to heat shock at 40°C for 60 minutes one hour after seeding. The hatching and vitality rate were analyzed after 48 hours. The statistical analysis was made by two-way ANOVA / Tukey, with $\alpha=0.05$. The remaining material was frozen for further physicochemical analysis, and heat shock proteins (HSP 26, 40, 70, and 90) gene expression as bio-resilience indicators [3,4]. Since *Artemia* spp are non-sentient microcrustaceans, there was no need for an ethical committee approval. **Results:** There was no statistical significance among groups related to any observed parameter. However, the hatching and vitality rates presented a U-shaped curve in the function of crescent magnetic field intensities applied to *Silicea terra* 24cH, suggesting a putative hormesis effect. The following experiments will consider variations in the protocol regarding heat shock exposure time, the inclusion of additional controls, and the number of plates to be used.

Keywords: Brine shrimp, magnetic field, *Silicea terra*, homeopathy

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References

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