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The effect of potentized *CCC* and potentized maleic hydrazide (MH), a growth retardant was studied on the growth of cowpea. We studied further to see whether *CCC 30* prepared with nano particles was more effective than the usual *CCC 30. CCC 30, CCC 200, MH 30* and *ethanol 30* (control) were prepared by the standard procedure of successive dilution (1:100) followed by succussion. *CCC 30* (nano) was prepared by initially triturating *CCC* with copper nano particles. The triturated material was later diluted and succussed following the standard procedure. *Ethanol 30*, prepared in the same way, was used as the control. Plants grown in earthen pots were treated separately with each of the test potencies by foliar spray. The application was repeated seven times. All the treatments significantly increased plant growth, chlorophyll, sugar and protein in the leaves. *CCC 30* (nano) and *CCC 200* were more effective than *CCC 30*. Of the four agents *MH 30* induced mamum protein synthesis in the leaves.

Clinical evaluation of the effects of Arnicare gel, a homeopathic preparation in sport related pain and stiffness. The efficacy and safety of a homeopathic arnica gel (Arnicare®) in the treatment of sports

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Objective: To evaluate the efficacy and safety of a homeopathic arnica gel (Arnicare®) in the treatment of sports related muscular soreness and pain.

Design: Randomized, double blind, placebo controlled clinical trial

Setting: Self use of an over-the-counter preparation by athletes participating in a club sport activity.

Subjects: Moderately trained athletes who experienced pain and stiffness after competitive sports games.

Interventions: Arnicare®, a homeopathic gel containing 7% arnica montana 1X, or matching placebo, applied to the lower extremities 3 times daily shortly before and after sports games until resolution of symptoms.

Main outcome measures: Pain and stiffness at different time points as assessed on a 100mm visual analogue scale after in total three sports games.

Results: 120 subjects (54 males, 66 females) were enrolled and randomized into two groups of 60. Subjects were mainly basketball players (85%) and the groups were comparable at baseline. The overall (baseline adjusted) level of stiffness during the 72 hours following the sports game was significantly less in the Arnicare group as compared to the placebo group (23.7mm versus 29.1mm, P=0.02). With regard to the overall level of pain there was a similar trend that did not reach statistical significance (24.9mm versus 27.9mm, P=0.17). Between group differences were most pronounced 12-36 hours post-exercise. 2 subjects in the arnica group experienced mild side effects (slight tingling, itching) that did not lead to discontinuation of the treatment.

Conclusions: Arnicare® gel can be used after sports activities to help with the short term effects of exercise stiffness and pain, as a substitute for OTC analgesic and anti-inflammatory drugs: very few subjects used any analgesic in conjunction with Arnicare® gel. Furthermore, Arnicare® gel was safe in use.

Effects of homeopathic treatments on strawberry plants in field

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In conventional agriculture strawberry plants are generally treated with fungicides to control pathogens. However, consumer concerns about possible risks associated with the use of fungicides, along with development of pathogen resistance, have resulted in an intensive search for safer, more effective control options that pose minimal risk to human health and the environment. One of them could be the use of homeopathic treatments, that, thank to their extreme dilution level, do not lead to any toxicity or accumulation in the environment.

The present research aimed at verifying the efficacy of such treatments on strawberry plants by evaluating phytopathological (control of infection induced by the fungus *Botrytis cinerea*, one of the most common pathogen of this crop), agronomical (fruit production) and biochemical (antioxidant activity, poliphenols and flavonoids) parameters. We performed three subsequent field trials (in 2010, 2011 and 2012) at a biodynamic farm: in all trials, the field was divided in plots consisting of 18 plants/treatment, each

treatment being replicated 4 times in a randomized complete block design. Homeopathic treatments were chosen on the basis of previous experimentation in growth chamber in which they gave significant results in the control of *B. cinerea* infection. They were *Sulphur* 6x, *Horn-equisetum* 6x and *Sulphur* 6x + *Horn-equisetum* 6x, being ultra pure water as a control. These treatments were sprayed weekly according to biodynamic calendar from about the end of March to the mid-June; assessments were performed weekly on fruit production and infection level. At the end of trials, strawberry samples were collected for biochemical analyses. Results showed that some homeopathic treatments induced a decrease of infection level and an increase of both strawberry production and biochemical coumponds.

Data obtained from this experimentation need further confirmations by performing field trials in other location and/or by using other crops, but can provide first indications for selecting homeopathic treatments to be proposed for practical use in agriculture, in the context of the so called "agro-homeopathy".

Acknowledgements

The Authors thank Laboratoires Boiron for their financial support. The sponsors had no influence whatsoever upon design, conduct and evaluation of this investigation.

Keywords: homeopathic treatments, strawberry plants, *Botrytis cinerea*, antioxidant activity, poliphenols, flavonoids

Depressed patients treated by homeopaths: a protocol for a pragmatic randomized controlled trial and qualitative study applying the cmRCT design

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Context: Depression is a major healthcare problem in Europe and worldwide. The WHO predicts depression will become the main burden of disease worldwide by 2030. Established treatments (antidepressants and the 'talking therapies') may help many depressed patients, but not all. Antidepressants are known to cause unwanted side-effects and many patients refuse to take such drugs. Depression is one of the main reasons why patients seek homeopathic treatment. Existing evidence of the effectiveness of homeopathy in depression is limited and former studies have struggled with difficulties such as low recruitment rates. Qualitative studies reporting on depressed patients' experiences with homeopathic treatment have not previously been published.

Aims: To evaluate the acceptability and comparative clinical and cost effectiveness of adjunctive treatment provided by homeopaths for patients with self-reported depression in addition to usual care, as well as patients' experiences with homeopathic treatment.

Methodology: We propose to carry out a pragmatic randomised controlled trial using the 'cohort multiple' randomised controlled trials (cmRCT) design. The pragmatic design has been chosen in order to increase external validity. Patients will be recruited from the South Yorkshire Cohort (SYC) which includes some 20 000 participants, of which about 9% suffer from self-reported longstanding depression. By using this methodological approach we hope to facilitate the recruitment process, increase recruitment rates and reduce attrition rates. Patients will be treated by homeopaths over a 9 month period and will be assessed over a period of 12 months. The main outcome measure will be PHQ-9 at 6 months. Secondary outcomes will include PHQ-9 at 12 months, and at 6 and 12 months: GAD-7, EQ-5D, BMI, MYMOP2 and a life satisfaction score. Inclusion/exclusion criteria will be as open as possible, in order for treatment to be as similar to 'real world practice' as possible. We will also be assessing patients' experiences through semi-structured interviews with a purposive sample of participants receiving treatment by a homeopath. We report preliminary data including response rates and, if possible, uptake of intervention rates.