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Are Homeopathic Remedies Effective?

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The notion of the *log dose-response relationship* is well established in clinical research. This infers a degree of certainty that when a higher dose of the drug is given a greater pharmacological response will follow. However, this notion is totally reversed when it comes to homeopathic medicine principles. Homeopathic medicine was established by a German physician, *Samuel Hahnemann*. He advocated the notion that “like-cures-like”. Although this modality is more popular in Europe, a report published by the U.S. Centers for Disease Control and Prevention in 2004 indicated that less than 4% of the population ever used homeopathy and less than 2% had used it in the past 12 months [1]. According to the principles of homeopathy the more diluted the preparation is the higher would be its potency. In fact, homeopathic practitioners reserve diluted preparations for more severe cases as high-potency preparations may overwhelm the system with their action. In a *classical homeopathic* treatment the practitioner aims to match the symptoms experienced by the patient with the overall picture of the remedy. (Other subsets of homeopathic approaches are *isopathy* which is the use of the actual biological substance which is believed to cause the illness, and *homotoxicology* which is designed to affect elimination of “toxins” from the body) [2]. Through the ages, homeopaths have developed a detailed description of manifestations observed following administration of the remedy in healthy subjects. These are gathered in reference books known collectively as the “*Materia Medica*”. This method of detailed remedy action is known as “proofing”. During a homeopathic evaluation the practitioner’s role is to match as closely as possible the patient’s symptoms with those of the remedy’s. In addition, a hierarchy exists among the symptoms; those belong to the mental or emotional conditions of the patient are considered to be of higher order of importance than those experienced physically by the patient. For example, if a patient is experiencing a severe migraine headache and his feelings are of sadness and melancholy, the latter ones are addressed first as they are of greater importance to those of migraine pain. Preparations used by homeopaths are associated with a numbering system that refers to the degree of dilution of that particular product. Either the symbol “X” or “M” follows a number to indicate a given dilution [2]. For example, a “12X” preparation is made by taking one drop of the tincture and adding it to nine drops of a hydro-alcoholic solvent. Then, one drop of the resulting mixture is added to nine drops of the same solvent. This process is repeated 12 times in total. After each dilution, the practitioner repeatedly shakes the mixture. This mixing step is known as “succussion”. According to homeopathic philosophy, preparations made without succussion are less potent than those prepared with it. The succussion process is believed to confer on the product an added *kinetic* energy. Although the final product may contain no or very little amount of the original tincture that was employed in its preparation, the idea of “higher” potency stems from the belief that molecules leave behind in the solution their “*energetic*” power to heal. Although there is no way to prove this concept through scientific reasoning, it remains a strong belief among those who adhere to it. Moreover, it is recognized that homeopathic treatments are associated with high variability when it comes to their outcomes. To some, this may be a *characteristic* of this modality rather than being an indication of poor outcomes [3]. An attempt has been made to *quantify* the homeopathic response by an *in vitro* test (the basophil degranulation model). In some cases the

results from this test were reproducible and promising, and in others they could not be duplicated [3].

Having considered the limitations and the challenges of homeopathic treatments one would wonder if this modality is just another manifestation of the *placebo* response. Thus, subjecting homeopathic remedies to the same rigors of testing as those of pharmaceuticals through *placebo-controlled clinical trials* (RCT) would imply testing a placebo form against another. The responses observed from homeopathic remedies are often subjective in nature and rarely quantitative. For example, studies have shown that the rate of recurrence of otitis media within one year is about 70% if the patient had received a conventional treatment and only 30% had he received a homeopathic remedy [4]. However, without considering the various numerous factors that can affect this inflammatory/infectious condition and what causes its recurrence, the mere comparison of the rate of recurrence among treatments can be somewhat misleading. For most of the conditions where homeopathy was considered to be “effective”, the responses were simply what the patient had *perceived* to be an improvement. Moreover, if a study shows that there was no difference in the clinical outcome between the conventional treatment and the homeopathic one this should not imply immediately that the homeopathic remedy is equally effective. When subjective outcomes are employed as an end-point in clinical trials, the sample size must be chosen carefully so that the probability of *Type II* statistical error does not increase (i.e., the probability of failing to reject the null hypothesis that the two treatments are equal when in fact the two treatments are indeed not equal). Stated otherwise, the *power* of the test for detecting a difference, if that difference truly exists, would be reduced when the sample size is inadequate. Subjectivity in the response requires a larger number of patients to be enrolled in the study, a condition that is often not met in studies involving homeopathic modalities. In addition, the composition of the homeopathic preparation and the method by which it was prepared must be clearly defined within the study methodology. Another important issue is the patients who are being recruited for the study. Homeopathic modalities are often based on a belief system. Thus, the *naivety* factor with respect to subjects enrolled in the study must be considered. True believers may *skew* the results depending on their proportions present in the “treatment” or the “placebo” group. Under a double-blind approach, a greater number of them in one of the two arms can tilt the results in favor of that group. Moreover, homeopathic remedies are traditionally “prescribed” on an individual basis. Thus, using a single treatment in the study does not conform to the actual

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life practice [5]. Accordingly, a multiple approach to treatment within one study is needed to tailor the treatment to the patient's needs. And perhaps more importantly is the notion of practitioner-patient healing connection during a homeopathic evaluation. It is recognized that the practitioner plays an intricate and important role in how the patient responds to a homeopathic remedy [3]. Collectively, these factors point toward *incompatibility* between homeopathic remedies and RCT. The homeopathic treatments simply do not fit well within the RCT frame.

Having considered these findings related to the homeopathic approach to treatment, one would wonder if this modality is really effective. From the point of view of the scientific methods, there are a great number of obstacles that prevent testing this approach in a similar way a new pharmaceutical product would be tested. However, since the clinical aim is to treat one person at a time, homeopathic modalities under these given frameworks may have the potential to "heal" those who truly believe in their power.

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