Complementary Therapies in Medicine (2005) 13, 291–296

ELSEVIER

Complementary Therapies in Medicine

www.elsevierhealth.com/journals/ctim

A review of the use and role of low potencies in homeopathy

Robert Jütte[a,*], **David Riley**[b]

[a] *Institute for History of Medicine, Robert Bosch Foundation, Straussweg 17, D-70184 Stuttgart, Germany*
[b] *6 Amigos Lane, Santa Fe, NM 87508, USA*

KEYWORDS
Low potencies;
Homeopathy;
Mother tinctures;
Organotropic and clinical use of homeopathic medicines

Summary
Background: The issue of potency choice in homeopathy has always been controversial. In ''high'' potencies there are no molecules of the starting substance remaining and in low potencies (including tinctures) the line between homeopathy and herbal medicine is blurred.
Method: The literature on potency selection is reviewed, including the use of low potencies and their effects on organ physiology. This article attempts to examine the overlapping boundaries between homeopathy and herbal medicine in clinical practice and basic research.
Findings: Both low and high potencies are utilized in all areas of homeopathy ranging from prescribing for acute or chronic diseases to constitutional treatment. Low dilutions play a role in homeopathic prescribing, and are particularly prominent in systems of homeopathy focusing on the organotropic effects of homeopathic medicinal products integrated with conventional medicine diagnosis and treatment.

(Mother) tinctures may be employed in homeopathy as well as in herbal medicine. The distinction between the two is based on the clinical context, the rationale behinds its use, and the production method of the tincture. Data available from basic research on low and high potencies do not suggest a superiority of low potencies over high potencies or vice versa.
Conclusion: Low potency homeopathic medications (with detectable concentrations of the starting material) and high potency homeopathic medications (with no detectable amount of the starting material in the finished product) have been available since the beginning of homeopathy. Given that both groups of homeopathic medications have shown effectiveness in clinical trials and in the absence of a definitive mechanism of action for homeopathy (including the possibility that there may be multiple mechanisms of action present) this wide of range of potencies for homeopathic medicines should be maintained, ranging from mother tinctures to homeopathic medicinal products with no measurable concentration.
© 2005 Elsevier Ltd. All rights reserved.

* Corresponding author. Tel.: +49 711 46084 173.
E-mail addresses: robert.juette@igm-bosch.de (R. Jütte), dsriley@integrativemed.org (D. Riley).

0965-2299/$ – see front matter © 2005 Elsevier Ltd. All rights reserved.
doi:10.1016/j.ctim.2005.10.003

Contents

Introduction

The debate on potency selection in homeopathy is as old as homeopathy itself. Hahnemann experimented extensively with the use of various types of homeopathic potencies ranging from mother tinctures to C and LM potencies. Towards the end of his life Hahnemann used a variety of posological regimens, according to the requirements of the case.[1,2] In fact, the Organon was re-written five times, each time with different instructions on the correct posology that laid the foundation for the ongoing debate on potency selection in homeopathy. From a historical perspective, the predominant modes of prescribing have covered the full spectrum from the use of low potencies (including mother tinctures) to the exclusive use of very high potencies. Presently, there are a number of homeopathic schools[3] with varying approaches to the use of potencies. In 'classical' homeopathy over the past 50 years, the use of higher potencies has become more common. This was not always the case. The former president of the Liga Medicorum Homeopathica Internationalis (LMHI) Charles Edwin Wheeler (1868—1946) noted that it was incorrect to state that high potencies are invariably more effective than low ones.[4] The theory of potency selection plays an important role in homeopathic education even though there is no clear scientific evidence favouring a specific potency over the other. In this paper, we will explore the existing literature on potency selection, look at the organotropic and drainage use of low potencies, discuss the boundaries between homeopathy and herbal medicine and assess the use of low versus high potencies in basic research.

Potency selection: a brief overview of the literature

What is the difference between a ''high'' and a ''low'' potency or dilution. In practice, there is no exactly defined distinction between high and low potencies. For operational purposes, a distinction is often based on the predicted likelihood (based on Avogrado's constant) of the presence of molecular traces of the original substances. This results in a cut-off point of C12 or 24X/24D, equivalent to a dilution of 10^{-24}. Another approach is the likelihood of any physiological response in vivo, which results in a cut-off point of C9 or 18X/18D, equivalent to a dilution of 10^{-18}.

Except for some historical statistics from homeopathic hospitals in Germany and Britain, very little data is available on the relative use of low versus high potencies, and such data is of course likely to vary greatly between countries. In 1948, for example, the German homeopathic physician Karl Saller recorded the most frequently used homeopathic medicines in the Stuttgart Homeopathic Hospital, listing all in all 150 medicines. Many of these (24) were administered as a mother tincture, most commonly low potencies ranging from 2X to 4X were prescribed. Alfons Stiegele (1871—1956), the director of this hospital and a leading homeopathic clinician, usually did not prescribe potencies higher than D 15.[5] Between 1889 and 1923 the majority of the homeopathic remedies given to patients in the London Homeopathic Hospital were prescribed in low potencies, usually 1X or 3X, and included mother tinctures.[6]

Based on current sales of homeopathic medicinal products, it can be stated that both high and low potencies are very firmly established in the market. Lower potencies are more often used for over-the-counter (OTC) for self-care, either as single substances or in combination products. High potencies are more often used in classical homeopathy. However, these are not firm distinctions. For instance, one of the few available more recent surveys on the use of potencies indicated that 60—70% of homeopaths used mother tinctures in their practice, and 80—90% used both 6C as well as higher potencies.[7]

Even though there is no formal consensus on the rules of potency selection there are a number of themes that emerge from the homeopathic literature, summarised in Table 1.

Table 1 Common statements on potency selection in homeopathic literature

High potencies preferable if the emphasis of the symptoms is psychological
Low potencies if focus of symptoms is physical/organic, at least at the beginning of treatment
High potencies can/should be repeated less frequently, low potencies can be repeated more frequently
Low potencies are often used in acute cases. Due to the predominance of certain common, physical symptoms in acute cases (rather than a fully developed individual symptomatology), it is often wiser to prescribe in low potencies. Initial frequent administration of a low potency can also provide the organism with the added stimulation required in acute diseases
Low potencies are often used in conjunction with patients on conventional medications
The use of constitutional medicines in low potencies can be used to facilitate the response to the same remedy in a higher potency. In line with this, a low potency is often prescribed in tandem with a high potency in chronic cases

The use of low potencies with a specific focus on organ function was introduced in the 19th century by Compton Burnett. This type of use of low potencies was subsequently developed further in Germany, France and Britain as part of more comprehensive homeopathic treatment approaches.

The organotropic and clinical use of homeopathic medicines

The organotropic use of homeopathic medicines is historically associated with the use of mother tinctures or low potencies. Organotherapy is a 'simplified' type of homeopathy where the level of similarity is lower and small frequently repeated, material doses are used. One of the pioneers of this approach in homeopathy was J. Compton Burnett (1840—1901), who noted at the end of the 19th century that organic diseases could not be cured solely by high potencies and he prescribed low potencies and tinctures in many cases with apparent success.[8] He also observed that the 'constitutional' diseases (diatheses, etc.) could not be cured with homeopathic medicines aimed at organ function alone.[9]

A similar development took place in 19th century Germany, when (following 18th century 'Enlightenment') there was a strong emphasis on logical positivism, rationalism and materialism in the natural sciences. Based on a desire to better align homeopathy with the prevailing natural sciences, D(ecimal) potencies were introduced in Germany by Bruno Albert Vehsemeyer (1807—1871) in 1836.[10] This dilution scale was also favoured by pharmacists, and subsequently D potencies were generally introduced. Using a lower level of dilution (1 in 10 instead of 1 in 100 or 1 per 50,000) per potency step ensured that homeopathic medicines were more likely to be prescribed in 'material' doses. The use of D potencies (or X potencies as referred to in the English speaking countries) is therefore historically associated with the use of low potencies. The clinical use of low potencies in general, either as single medicines or in fixed combinations, for their organotropic effects were developed and promoted further by Metzger, Leeser, Stauffer and Reckeweg[11] and others. In the second half of the 20th century, the Austrian homeopath Mathias Dorcsi[12] developed the concept of ''proven indications''[13] which became popular in both Germany and Austria.

In France, Maury and others further developed the organotropic use of homeopathic medicines in low potencies under the heading 'Drainage Biotherapique'.[14] The main elements of this approach[15] involve facilitating the organs and immunological mechanisms to provoke and stimulate elimination of all that needs to be eliminated. Here the prescriptions of homeopathic medications are used to sustain, help or stimulate an organ or a function (e.g. the immune system and drainage is felt to take place within the context of a particular constitutional diathesis. Medication is prescribed in low potencies to achieve a local action based on a clinical 'similarity' with regard to this diathesis.

The historical roots of 'drainage' go back to the use of Psorinum by Constantine Hering to reduce susceptibility for psoric affections.[16] This concept has been further developed in homeopathy to address further aspects such as for instance drainage of the liver, the kidney, and the blood.[17] For the latter, low potencies or tinctures of vegetable substances such as Solidago, Equisetum and Taraxicum are used. General drainage of the immune system is also felt to take place with medicines such as thymuline.[18]

Homeopathy versus herbal medicine

When medicines are used in mother tinctures, one could argue that this is phytotherapy (herbal medicine) rather than homeopathy. This touches

on a long-standing debate about the distinction between homeopathy, anthroposophical medicine, and phytotherapy, which is particularly an issue when medicines are prescribed either in mother tinctures or in low potencies.[19]

In order to clarify this debate, it is important to distinguish homeopathic medicines in their own right from the clinical context in which such medicines are applied. A homeopathic medicinal product (at any potency level) is clearly and unequivocally defined as a product that has been prepared in accordance with a homeopathic manufacturing procedure as defined by the European Pharmacopoeia or recognised national homeopathic pharmacopoeias. In these pharmacopoeias, the manufacturing of homeopathic mother tinctures is defined following specific manufacturing procedures, which differ from the manufacturing of phytotherapeutic tinctures. Therefore, the debate is mainly linked to the therapeutic use of such products. There is a significant overlap between medicines used — traditionally — in phytotherapy and in homeopathy (for instance Arnica montana) and in many instances the clinical indications are similar or even identical.

From a clinical perspective, there is currently no consensus on the border between homeopathy and phytotherapy, and it is sometimes hard to make such a distinction. It could be argued that the main distinction lies in the rationale behind the use of the product: if a tincture is prescribed by a herbalist on the basis of the available literature on the use of herbs, it becomes phytotherapy rather than homeopathy. If a (mother) tincture is prescribed on the basis of the patient's symptoms and signs in accordance with the law of similars (with reference to the homeopathic material medica) it becomes homeopathy rather than phytotherapy.

In this context, further clarification is required on the meaning of 'in accordance with the law of similars'. Medicines can be prescribed homeopathically in any potency either on a highly individualised basis (e.g. totality of symptoms in classical homeopathy) or on the basis of a more limited level of similarity (e.g. based on clinical/local symptoms and pathological signs). In either case, the decision is based on proving data and clinically verified data as reflected in homeopathic Materia Medicas, repertories, and published scientific information.

The other aspect to consider regarding 'similarity' pertains to opposite effects occurring with higher and lower doses, or with healthy and sick persons. Reverse dose-dependent effects are observed and utilised in conventional medicine (for instance the use of low dose amphetamines in hyperactive children) and in biology/toxicology (low dose stimulatory effects, referred to as 'hormetic' responses).[20] Also, proponents of phytotherapy argue that many phyto-pharmaceuticals act on regulatory mechanisms, based on low dose stimulatory effects.[21]

It is therefore mainly the use of data from homeopathic pathogenetic trials (provings) as a source for individualised prescribing that distinguishes the homeopathic use of tinctures and low potencies from the use of tinctures in phytotherapy.

In conclusion, whether a medicinal product is homeopathic or not, is determined, from a pharmaceutical perspective, by its production in accordance with a recognised homeopathic pharmacopoeia. Whether a medicinal product is homeopathic or phytotherapeutic from a clinical perspective is determined by the rationale behind its use. The use of tinctures and very low potencies is therefore not the exclusive domain of herbalists: it forms an integral and essential part of the homeopathic tradition.

Low versus high potencies in basic research

We would briefly like to refer to the main strands of basic research, with particular reference to research on low versus high potencies. In our literature search we identified one study that specifically asked the question if all homeopathic potencies have a similar effect.[22] The latter study found that homeopathic potencies have a demonstrable effect on the migration of leucocytes from house dust-sensitive individuals and that not all potencies are equally active. Despite varying activity of specific potencies, there was no clear pattern that low potencies were more effective than high potencies or vice versa. In other basic research that asked different questions than the effect of potency on biological activity it has been noted that there are variable effects at different potencies.[23]

It is probable that different explanatory frameworks will be needed for biological effects of lower versus higher potencies and that multiple mechanisms of action may be possible.[24] For instance, the biological effects of high potencies have been for the most part reproducibly established in a 'histamine model'.[25,26] Similar to the house-dust mite study,[27] different potencies demonstrated different effects (in this case in a wave-like pattern[28]) throughout the potency spectrum. A homeopathic approach that may relate to this involves the use of preparations containing one or several active substances in a variety of potencies, often called 'potency chords'.

A number of hypotheses have been put forward to explain the biological action of high potencies. One such theory refers to 'entanglement' based on quantum theory.[29] Another possible explanation is the 'Information Theory Hypothesis', which states that water and other polar solvents can under specific circumstances store specific information about substances with which they have previously been in contact and subsequently transmit this information to presensitised biosystems.[30,31] Despite the emergence of promising hypotheses, the possible mechanism of action of high potencies/dilutions is currently not firmly established.

The potential explanations for the effects of high potencies are different from the biological effects associated with lower potencies/dilutions. The latter can be connected with conventional pharmacological, biological and toxicological models. For instance the 'hormesis' hypothesis (from the Greek word meaning 'to excite') of low dose stimulatory effects, referred to in homeopathy as the Arndt—Schultz law for more than a century,[32] is increasingly recognized in conventional scientific circles.[33,34] The extensive research program of Van Wijk and Wiegant[35] provides further support for links to the similia principle for biological and toxicological models. The hormesis principle also offers a way to integrate the dose—response paradigm in conventional pharmacology[36] with the reverse dose-dependent model used in homeopathy. For example, studies have shown that low doses of antibiotics such as streptomycin enhance the reproduction of certain harmful strains of bacteria, while killing these strains at higher doses.[37] It is plausible that homeopathic drainage and detoxification in low potencies as referred to above, utilizes these hormetic mechanisms. On the other side, there are authors who reject that homeopathy has anything to do with hormesis.[38,39]

Another hypothesis is that homeopathy could be acting through the molecular regulation of selected biochemical pathways, as suggested by for instance Chirumbolo et al.[40]

Research on the possible effects of homeopathic products on plants (including seeds) is another domain that may prove fruitful in the further elicitation of biological effects. The most promising application in this respect appears to be experiments with plants that show significant detoxification (as assesses by growth modulation of seedlings) in response to homeopathic potencies.[41,42]

A recent systematic review of in vitro research with homeopathic potencies reported that 85% of studies demonstrated a potency effect and that the proportion of positive results (86%) remained constant even among high quality experiments.[43] While more research is needed, the available data do not suggest a consistent superiority of low potencies versus high potencies or vice versa and both high and low potencies are an integral part of homeopathic prescribing.

Discussion

A goal in homeopathy is to prescribe the homeopathic 'similimum' in either a low or high potency to patients who have no impairment or blockage in their capacity to respond. Exposures to conventional treatments, 'environmental stressors' such as bad diets, nicotine, alcohol, air contamination, etc., are some of the factors that are believed to reduce both the 'clarity' of the homeopathic picture as well as the capacity of the patient to respond and hence lead to alternative methods of homeopathic prescribing and potency selection. Both low and high potencies have been used successfully, alone and together, since the beginning of homeopathy and are inextricably linked, and a vital part of the homeopathic heritage concerning case management and posology.

References

1. Schuricht U. The development of potencies and repetition in Hahnemann's last years: literature roots: Abstracts 60th congress Liga Medicorum Homeopathica Internationalis. *Allg Hom Zeit* 2005;**250**:S39—S40.
2. Sauerbeck KO. Wie gelangte Hahnemann zu den Hochpotenzen? Ein Kapitel aus der Geschichte der Homöopathie. *Allg Hom Zeit* 1990;**235**:223—32.
3. ECHAMP. Homeotherapy: definitions and therapeutic schools. 1st ed. Brussels: European Coalition on Homeopathic and Anthroposophic Medicinal Products; 2004.
4. Wheeler CE. *An introduction to the principle and practice of homoeopathy*. Rustington: Health Science Press; 1948. p. 22.
5. Cf. Faltin T. *Homöopathie in der Klinik. Die Geschichte der Homöopathie am Stuttgarter Robert-Bosch-Krankenhaus von 1940—1973*. Stuttgart: Karl F. Haug Verlag; 2002. p. 121.
6. Leary B, Lorentzon M, Bosanquet A. It won't do any harm: practice and people at the London Homoeopathic Hospital, 1889—1923. In: Jütte R, Risse GB, Woodward J, editors. *Culture, knowledge, healing. Historical perspectives of homeopathic medicine in Europe and North America*. Sheffield: EAHMH-Publications; 1998. p. 251—73.
7. Deroukakis M. Selection of potencies by medical and non-medical homeopaths: a survey. *Homeopathy* 2002;**91**: 150—5.
8. Koppikar SP. Lessons from Dr. James Compton Burnett. *The Homeopathic Heritage* 1991;**16**:636—7.
9. Kammermeier A, Compton-Burnett J. Analyse seiner Behandlungsstrategie. *Allg Hom Zeit* 2000;**3**:91—7.
10. Dellmour F. *Homöopathische Arzneimittel. Geschichte, Potenzierungsverfahren, Darreichungsformen*. Wien: Österreichische Gesellschaft für homöopathische Medizin; 1992.

11. Reckeweg HH. *Homotoxicology: illness and healing through anti-homotoxic therapy*. 4th ed. Baden-Baden: Aurelia Verlag; 1994.
12. Schmitz M. *Strömungen der Homöopathie: Konzepte-Lehrer-Verbreitung*. Essen: KVC Verlag; 2000.
13. Dorsci M. *Homöopathie, Band 4: Organotropie*. Heidelberg: Karl F. Haug Verlag; 1985.
14. Desgor J. Le drainage biothérapique. *Cahiers de Biothérapie* 1996;**142**:49—50.
15. Coulamy A. Les basses dilutions homéopatiques: sont-elles démodées? *Cahiers de Biothérapie* 2000;**161**:55—8.
16. Hering C. *The guiding symptoms of Materia Medica*, vol. 8. New Delhi, India: Jain Publishers; 1989.
17. Boericke W, Dewey W. *The twelve tissue remedies of Schüssler*. New Delhi: Homeopathic Publications; 1914.
18. Bastide M, Daurat V, Doucet-Jaboeuf M, Pelegrin A, Dorfman P. Immunomodulatory activity of very low doses of thymulin in mice. *Int J Immunotherapy* 1987;**3**:191—200.
19. Cf. Jütte R. *Geschichte der Alternativen Medizin. Von der Volksmedizin zu den unkonventionellen Therapien von heute*. Munich: CH. Beck; 1996.
20. Calabrese EJ, Baldwin LA. Developing insights on the nature of the dose-response relationship in the low dose zone: hormesis as a biological hypothesis. *Biomed Ther* 1998;**16**:235—40.
21. Kalbermatten R. Dose-dependent drug effects in phytotherapy and homeopathy. *Br Homeopath J* 1993;**82**:130.
22. Gibson SLM, Gibson RG. The effects of homoeopathic potencies of house-dust mite on the migration of house-dust mite-sensitive human leucocytes. *Compl Ther Med* 1996;**4**:169—71.
23. Davenas E, Beauvais F, Amara J, Oberbaum M, Robinzon B, Miadonna A, et al. Human basophil de-granulation triggered by very dilute antiserum against IgE. *Nature* 1988;**333**:816—8.
24. Gaier HC. *Thorsons encyclopaedic dictionary of homoeopathy. The definitive reference to all aspects of homoeopathy*. London: Thorsons; 1991. p. 436.
25. Belon P, Cumps J, Ennis M, Mannaioni PF, Roberfroid M, Sainte-Laudy J, et al. Histamine dilutions modulate basophil activity. *Inflamm Res* 2004;**53**:181—8.
26. Guggisberg A, Baumgartner S, Tschopp C, Heusser P. Replication study concerning the effects of homeopathic dilutions of histamine on human basophil degranulation in vitro. *Complementary Ther Med* 2005;**13**:91—100.
27. Taylor M, Reilly D, Llewellyn-Jones R, McSharry C, Aitchison T. Randomised controlled trials of homoeopathy versus Placebo in perennial allergic rhinitis with overview of four trial series. *Br Med J* 2000;**321**:471—6.
28. Davenas E, Beauvais F, Amara J, et al. Human basophil degranulation triggered by very dilute antiserum against IgE. *Nature* 1988;**333**:816—8.
29. Weingärtner O. What is the therapeutically active ingredient of homeopathic potencies? *Homeopathy* 2003;**92**:145—51.
30. Bastide M, Lagache A. A new paradigm applied to high dilution effects on the living body. In: Taddei C, Marotta P, editors. *High dilution effects on cells and integrated systems*. Singapore, New Jersey, London: World Scientific Publ; 1998. p. 335—45.
31. Bastide M. Information and communication in living organisms. In: Schultze J, Endler PC, editors. *Fundamental research in ultra high dilution and homeopathy*. Dordrecht, Boston, London: Kluwer Academic Publisher; 1998. p. 229—39.
32. Schulz H. Über Hefegifte. *Pflügers Arch Ges Physiol* 1888;**42**:517—41.
33. Calabrese EJ. Challenging dose—response dogma. *Scientist* 2005;**19**(3):22—3.
34. Blackman S. Industrial pollutants reveal a surprising origin. *Scientist* 2005;**19**(11):24—5.
35. Van Wijk R, Wiegant F. *The Similia principle in surviving stress; mammalian cells in homeopathy research*. Utrecht: Utrecht University; 1997.
36. Calabrese EJ, Baldwin LA. Developing insights on the nature of the dose-response relationship in the low dose zone: hormesis as a biological hypothesis. *Biomed Ther* 1998;**16**:235—40.
37. Miller WS, Green CA, Kitchen H. Biphasic action of penicillin and other similar sulphonamides. *Nature* 1945:210—22.
38. Oberbaum M. Hormesis is not homeopathy. Toxicol Appl Pharmacol, in press.
39. Betti L, Brizzi M, Nani D, Peruzzi M. Effect of high dilutions of Arsenicum album on wheat seedlings from seeds poisoned with the same substance. *Br Homeopath J* 1997;**86**:86—9.
40. Chirumbolo S, Signorini A, Bianchi I, Lippi G, Bellavite P. Effects of homeopathic preparation of organic acids and minerals on the oxidative metabolism of human neutrophils. *Br Homeopath J* 1993;**82**:237—44.
41. Auquière JP, Moens P, Martin PL. Recherche de l'action de dilutions homéopathiques sur les végétaux: II: Acution du $CuSO_4$ 0.1 and 0.2%. *J Pharm Belg* 1982;**37**:117—34.
42. Kovac H, Muhry F, Novic S, Moser M. Das Wachstum von Weizenkeimlingen nach Zugabe von toxischen Substanzen. *Mitteilungen des Institut für Strukturelle Medizinische Forschung* 1991;**3**:43—63.
43. Bluth M, Albrecht H, Weisshuhn TER, Witt C. In vitro research with homeopathic potencies. A systematic review. *Allg Hom Zeit* 2005:250, doi: 10.1055/s-2005-868617.

Available online at www.sciencedirect.com
SCIENCE DIRECT®