Introduction of homeopathy and homeopathic medicines: A review

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Abstract
Homeopathy is a popular traditional alternative system of medicine. There is no review in literature reporting the basics of homeopathy, so this narrative review was written to provide a rapid overview regarding homeopathy and homeopathic medicines. Homeopathic medicines are prepared from different sources i.e. plants, animals, minerals, nosodes, sarcodes, imponderabilia and synthetic medicines. Homeopathic medicines can be prepared under different scales of potentization i.e. decimal, centesimal and 50 millesimal. Homeopathic medicines are proved on healthy subjects to obtain a remedy picture. Homeopathic medicines are administered in minimum doses to sick person on basis of similarity to bring cure. Various researches were carried out to prove homeopathic medicines by following its unique philosophy. However, further researches are required to prove Homeopathy in front of scientific community.

Keywords: Homeopathy, mother tincture, ultrahigh dilutions, review

Introduction
Homeopathy is an alternative system of medicine. Homeopathy is based on similia principle “Similia similibus curentur” that means diseases are cured by symptom similarity [1]. Homeopathy was discovered in 18th century by a German physician, Dr. Christian Fredrick Samuel Hahnemann. The “Homeopathy” word is derived from two Greek words: ‘homeos’ and pathos means ‘similar and ‘suffering’ respectively. So, it can be defined as the therapeutic method of treating the diseases based on the symptom similarity [2]. Homeopathy was discovered in an interesting manner by Dr. Hahnemann. He took a dose of cinchona bark and he felt malarial symptoms. Malaria was thought to be treated by cinchona. Thus it is assumed by him that a substance that is able to cause a disease can treat that same disease. So, a cardinal law of Homeopathy i.e. “Law of similar” was discovered. Initially, Dr. Hahnemann focused on the point that two diseases relate in a very specific way. One disease temporarily or permanently replacing the other. The example of this point is the alteration of eczema and asthma. Both of these diseases are manifestations of an allergic constitution. There is also a theory of replacement of one disease by some other disease. The example of replacement of one disease is disappearance of chronic skin rash after the appearance of measles. This theory confirmed that diseases are removed when the two diseases have similar symptoms [3]. Homeopathy discovered the fact that dilution followed by vigorously shaking (potentization) of the remedies, made a substance more strong regarding the clinical response. In homeopathic potentization, one part of mother tincture is diluted with 99 parts of rectified spirit (90% ethyl alcohol) and given 10 ‘succession’ or ‘vigorous jerks’ to make 1 C potency. In the same way, 2 C potency is prepared by again mixing the 1 ml of 1 C potency and 99 ml of 90% ethyl alcohol and then 10 jerks are given. By repeating the same procedure of dilutions and succession, higher potencies are prepared. Therefore at high dilutions, i.e. beyond 12 C (i.e. beyond Avogadro’s limit, i.e. 10^-23) the potencies do not have any molecule of the mother tincture (stock solution) [4-7]. Homeopathy treats patients with diluted natural substances aimed at stimulating the body’s healing system. It is assumed that healing system of body is stimulated by giving a similar medicine. For the selection of similar medicine, a homeopathic physician takes an individualizing history so that he is able to know about the patient’s idiosyncratic characteristic symptoms. This type of individualizing history taking increases the chances of selection of individualized similar medicine [8]. For this purpose, a homeopath must asks the patient to describe in detail all mental and physical symptoms. The individualization procedure is very prolonged and may need a lengthy observation period, repeated follow-up sessions and many prescriptions until the best suited...
similar medicine is selected for the patient. So, a homeopathic medicine is the potentized preparation that has the ability to change in the health of the normal individual and resulted in cure when administered to sick on similia principle [8]. There is no review in literature reporting the basics of homeopathy, so this narrative review was written to provide a rapid overview regarding homeopathy and homeopathic medicines.

Proving of Homeopathic medicines

Homeopathic medicines are tested/proved on healthy human beings of different age and sex groups. A homeopathic drug proving (HDP) is performed by the application of a substance in nontoxic dilutions to healthy persons (volunteers). The tested material causes mental, physical or psychological symptoms that can be reversed. Provers and the investigators noticed and then record these all kind of symptoms. HDP is necessary for the progress of the cure. By this process, a suitable homeopathic remedy picture is obtained that can be used later for the selection of Homeopathic medicines for sick person. The goal of a Homeopathic drug proving is to produce, detect and document reversible proving symptoms that are required to use a substance according to the law of similar. The proving symptoms are actually the changes in the health that are produced by the proving substance. These should be different from the routine symptoms of the volunteer, revealed during the initial history taking record. HDP is the way of proving efficacy as well as getting knowledge about the characteristic symptoms of medicine, the "remedy picture". In homeopathic drug proving, effectiveness is assessed by noting the changes in health produced by the administration of a proving substance. It is advised to the volunteers that they should write clearly every minute change in health regarding sensations or pains that he experience after administration of medicine with the time of appearance of that symptom [1-8].

Homeopathic pathogenetic trials (HPTs) or drug provings are the pillars of homeopathy. In research studies, it is a query that whether the symptoms produced during such HPTs in healthy volunteers can differentiated from the placebo symptoms. A review summary of the authors’ findings and interpretations derived from a series of homeopathic drug proving between 1994 and 2015 showed Homeopathic UHDs apparently produce some specific symptoms in healthy volunteers that can be distinguished from the symptoms of other remedies and the noise produced by placebo. The results follow from very strict, rigorously blinded and controlled trials and thus are valid. However, to transfer a finding and an experimental result into a scientific fact requires several further steps replications by independent groups have to follow. It has not occurred, yet [9].

Sources of Homeopathic medicines

Plants, Animals and Minerals are three major sources of Homeopathic medicines. There are three other sources of Homeopathic medicines namely Sarcodes, Nosodes, and Imponderabilia. (Figure 1). There is another class of medicine in Homeopathy called tautopathic medicines. These are used to remove the bad effects of other medications. Here the same medicinal substance is used to prepare medicine but prepared in Homoeopathic method of Potentization [10].

![Fig 1: Sources of Homeopathic Medicines](image-url)

**Plant Kingdom**

Different parts of plant are used for the preparation of homeopathic mother tinctures that is used as a stock solution for making potencies. It may include herbs, flowers, stems, leaves, barks, weeds, roots, seeds and sometimes whole plant.

**Animal Kingdom**

Animal Kingdom contains medicines that are taken from some part of animal or from their secretions. These include different worms, insects, flies, lizard, crabs, toads and snakes, etc.

**Mineral Kingdom**

Most of the elements and compounds like salts, metals, non-metals, alkalis and acids are used for medicine preparation from Mineral Kingdom.

**Nosodes**

The medicines that are synthesized by disease causing bacteria or viruses or some diseased part of humans, animals or plants are known as nosodes. A nosode perform its function by removing intracellular toxins from the body. These are not antibiotics and thus they possess no bactericidal or bacteriostatic activities [11]. Dewey describes Nosodes as, “The morbid product of disease when employed as medicines”.

Examples of some of these are Baccilinum (from tuberculous sputum), medorrhinum (from gonorrhea virus), carcinosin (from cancerous tissues); psorinum (psoric virus preparation), pyrogenium (infected pus), syphilinum (syphilitic germs’ preparation), tuberculinum (pus of tubercular abscess), typhoidinum (Salmonella typhi’ preparation), variolinum (smallpox eruptions’ preparation), Ambra grisea (whale), aviare (tuberculin virus of chicken), anthracinum (anthrax poison from spleen of affected cattle or sheep), mallandrinum (grease in horse), hydrophobinum or lyssin (saliva of a rabid dog), Secale cor (fungus growing on the seeds of the secale cereale), ustilago maydis (fungus, growing on the stem of Indian corn).

**Sarcodes**

Sarcodes are homeopathic medicines that include endocrine glands as a whole, their normal products and secretions. They are also prepared from animal source. The medicines from this source include: Adrenalinum (secretion produced by adrenal glands), pancreatinum (pancreas of beef), fel tauri, insulin (pancreatic hormones), pituitary (posterior portion of the pituitary gland of sheep), pepsimun (digestive enzyme pepsin), cholesterinum, thyroidinum (thyroid gland
of sheep or calf), oophorinum (ovary of cow or sheep), orchitinum (testicular), etc.

Imponderabilia
Medicines made from energy, either from natural or artificial source are known as imponderabilia [12]. Hahnemann writes, “Even many imponderable (immaterial) substances can produce most violent medicinal effects on human beings”. (Organon, aphorisms 280). The medicines from this source include: Luna (full moon), magnetis polus Australia (South Pole of the magnet), magnetis polus Arcticus (North Pole of magnet), magnetis poli ambo (magnet), sol (sun rays), radium, Magnetis artificialis, electricitus, X-ray [10].

Preparation of Homeopathic medicines
Homeopathic medicines are prepared according to the guidelines of Homeopathic Pharmacopoeia. The Preparation of Homeopathic medicines consisted of 2 steps,
• Preparation of Mother tincture
• Preparation of Potencies

Preparation of Mother tincture
Mother tincture is the extract, directly prepared from the corresponding source of the raw material, that is denoted by Theta Φ, or Q. All the medicinal substances that are soluble in water or alcohol are prepared in mother tincture form. Further potencies are prepared from this mother tincture. The pulp of the medicinal substance and required quantity of alcohol is placed in an enameled vessel having lid for at least seven days. Stir it daily. If alcohol is evaporated and its quantity is decreased then add more alcohol in it. After specific time, the fluid is separated and decanted off. Remaining juice is collected by pressing the residue material. In Homeopathy, this juice is collected and used as a mother tincture and stock solution for further preparation of potencies. Mother tincture is somewhat different than simple extract as it contains an alcohol ratio of one part medicinal substance to nine parts alcohol while simple extracts contain one part of medicinal substance to 1 or 5 parts alcohol [10].

Preparation of Homeopathic Potencies
Potency is the optimum power of medicine or remedy which when given in minimum dose at specified intervals, depending upon the nature of the disease and the susceptibility of the subject would cure him of his sickness in minimum time. Two potency scales are commonly used, i. e. decimal and centesimal scale. A third scale was also introduced by Hahnemann i. e. 50 Millesimal scales of Potentization [11]. The graphical representation of these scales is shown is figure 2.

Decimal scale of Potentization
In this scale of potentization, first potency is made by adding one part of the original drug substance to the 9 parts of vehicle. Vehicles are of varying variety. They may be saccharum lactic for insoluble substances and alcohol or water for soluble substances. Further potencies are prepared by taking one part of previous potency and 9 parts of vehicle. The decimal potency scale has been discovered by Constantine Hering in 1830 [14]. It is also known as D or X scale dilution and is represented as X or D. Hahnemann does not preferred this scale, but it is commonly used in Europe during the 19th century and still present [10].

Centesimal scale of Potentization
Hahnemann created and used the centesimal or “C scale” for preparation of Homeopathic medicines, dilution of a substance in a ratio of 1:100 at each step. The centesimal scale was preferred by Hahnemann mostly. Next dilutions are prepared by dilution of the previous potency and one part of previous potency and 99 parts of alcohol are mixed and so on. Similarly, further potencies are prepared. The potencies prepared according to this scale are represented as 30 C, 200 C etc. Potencies of 1000 C and above are usually labeled with Roman numeral ‘M’ and with the centesimal ‘C’. 1M is used for 1000c, 10M is used for 10, 000 C; CM is used for 100,000 C, LM (showed 50,000 C) is typically not used because it is also used for LM potency scale [10].

50 Millesimal scale of Potentization
LM scale or 50 Millesimal scale of Potentization was developed by Dr. Hahnemann in last years of life. In this, dilutions are made by taking 1 part of medicinal substance is mixed in in 50,000 parts of vehicle [10].

Ultra High Dilutions
Many homeopathic medicines are used in which the dilutions exceed Avogadro's number (6.023x10^{-23}). When homeopathic medicines are diluted 1:10, with repeated succussion and dilutions by this process at least 24 times, a potency is made that is so dilute that the chances of a single molecule of the original drug substance remaining in the volume are less than 1x10^{-10}. High dilutions of homeopathic medicines have been effective in treating many conditions. Homeopathic potencies of 100C to 1M of typhoidinum, nux vomica, tuberculinum, hydrophobinum and malandrinum completely inhibited chicken embryo DNA virus induced pock-like lesions on the chorioallantoic membrane compared to controls. This study showed Antiviral effects of Homeopathic ultrahigh dilutions in vivo [15]. In past few years, research into ultra-high dilutions and homeopathy has been a topic of interest in various countries and universities. There is a harmony among researchers about the difficulties of establishing a model in which it is possible to obtain reproducible results [16, 17]. However, a bibliometric (statistical analysis of books, articles, or other publications) study showed 24 experimental models in basic research on high homeopathic potencies (beyond 10^{-23}), which were repeatedly investigated with reproducible results [18]. Two meta-analyses of homeopathy ultra-high
dilutions both show that there is enough evidence that homeopathy has added effects over placebo. Against this evidence is a background of significant scientific skepticism [19]. There are various theories to justify effects of ultra-high dilutions however, the precise mechanism of action of homeopathic medicines is not known. MRI study on various serial dilutions that also has vigorous shaking or succussion sowed that the hydroxyl groups in the solvent of solution continuously alter as dilutions become higher [20-21]. The specific effects of homeopathic medicines are of a non-molecular origin, yet provide powerful biological activities that are clinically effective. It has been assumed that highly dilute substances transfer biological activity to cells by electromagnetic fields. Another working hypothesis about homeopathic ultra high dilutions is interactions between the radiation fields of a charged molecule and the electric dipoles of water generate a permanent polarization of water which becomes coherent and has the capacity to transmit specific information to cell receptors, somewhat like a laser [22]. A recent Research study revealed the presence of Nano bubbles (NBs) in Homeopathic dilutions by using NMR spectroscopy. These NBs are associated with superstructures that seemed to increase in size with increasing dilutions well into the ‘ultramolecular’ range. These nano bubbles create superstructures related to specific solute [23].

Application of Homeopathic medicines in treatment

Homeopathic medicines are administered to patients on the basis of Law of Similars. The clinical use of the medicines is administered by specific laws and principles. The homeopathic physician takes an individualizing history. The individualization procedure is very prolonged and may need a lengthy observation period, repeated follow-up sessions and many prescriptions until the best suited similar medicine is selected for the patient. In homeopathy, diseased organ symptoms alone are of no value but the physical characteristics such as effect of weather, food and mental symptoms are also noted in each case. So, the two person with the same disease may require different medicine that is based on the symptoms collected from the whole person because no two person can be same regarding their physical and mental symptoms [8]. In case of an out spread of disease, a common medicine is selected that is more similar to disease condition.

Homeopathic medicines are applied in minimum dose

Dr. Hahnemann discovered “Law of minimum dose” because of the hazardous effects of large doses. So, he proceeded towards dilution of the remedies with agitation/succussion. Only proper selection of homeopathic medicine in a case does not sufficient, but the proper size should also be considered. According to this law, a medicine should be given to the patients in small doses. In the “Organon of medicine” § (aphorism) 246, Hahnemann writes about the minimum dose as following:

“Quantity of the medicinal substance that is although smallest in amount produces the excitation of the vital force and remain suitable to effect the necessary change in it.”

The amount is small, however sufficient, for a gentle medicinal effect. The idea of the minimum dose became the idea of the minimum dose became the basis of Law of Similars. The specific dynamic action produced the characteristic symptoms of the medicine in a healthy individual and cured those symptoms in sick.

• The smallest amount of the medicine does not cause any organic damage to the body.
• There is no drug addiction through small doses.
• Arndt-Schultz law confirmed the concept of minimum dose. Arndt-Schultz law describes that the small doses of any substance stimulate, medium doses of it paralyze, and large doses of same substance kill. Alternatively, it means, the small and large doses of the similar substance on living body act in an opposite way.
• Health is a condition of perfect balance and equilibrium. So it can be maintained by the least possible intake of medicines [24].

Research on homeopathic ultrahigh dilutions

In many countries and universities, research in Homeopathy and its ultrahigh dilutions is a topic of interest. Treatment with Homeopathic Medicines is assumed as the placebo effect. But Homeopathy medicines have proven their effect as anti-inflammatory, antipyretic, antimicrobial, antioxidant, anti-diabetic and many other diseases in several animal studies as well as randomized clinical trials [25-37].

Conclusion

Homeopathy is an integrative system of medicine having its own philosophy. It could treat many so called incurable diseases by following its unique concepts. However, there is a need of authentic research in Homeopathy with sound scientific protocols.

References
