



Homoeopathic Research-Understanding the Challenges

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Abstract

Over the last decade, documented research has gained importance in every system, more so in medicine. Homeopathy is no exception, as evident from a sharp increase in the number of researches being published in various homeopathic journals. The question 'why to research' has well been overcome by the community taking keen interest in not only carrying out researches, but also sharing those through publications and presentations. However, another question 'what to research' is getting more and more relevant for various reasons. One, because even though the numerous researches conducted in homeopathy have taken homeopathy to a higher level, much remains desirable to take it to the level of international acceptance. This calls for a serious analysis of what 'exactly' should be the elements on which the research needs to be focused upon, in order to gain maximum acceptance. Two, there are many areas that have been exhaustively researched and researching those further might not be as productive as investing the same amount of time, energy and resources on some other more relevant and vital research area. This is largely true for the clinical researches on various off-repeated conditions.

The paper aims at appraising the homeopaths interested in research about the various challenges lying ahead for homeopathy, the research in which could prove to be more apt and worthwhile for both the researcher and the profession.

Keywords: Researcher; Homeopathy; Challenges; Scientific research; Plausibility; Evidence; Cost effectiveness; Public faith; Placebo; Literary research

Introduction

For any stream to progress in this century, it is important that it reflects through its being the element of science. Unless a concept behind a system is scientific, it is taken with a pinch of salt. Although absence or lack of scientific evidence doesn't make a concept out rightly unscientific, one must carry on with the pursuit for its scientific validation for better acceptability and higher credibility. The basic function of research is to answer why and how of a phenomenon, but searching answers to what, when, how much, etc., is also a part of research endeavours. It is for the younger lot of each professional stream to shoulder the responsibility of adding more value to their streams by way of standardized researches. This is especially true for areas of engineering, medicine and technology or a combination of these, where the advances are fast-paced and huge in number. In fact, medicine seems to have special appetite for such enquiries. The goal of medical research is to improve health, and the purpose is to learn how systems in human body work, why we get sick, and how to get back to health and stay fit. It is a systematic process to better determine etiology, pathophysiology, diagnosis, therapy and prognosis. Research is the very foundation of improved medical care. It can also provide evidence for policies and decisions on health development [1].

However, since Medicine is a delicate science concerned with vitalities of life such as health, disease and death, it brooks no error. Ironically, no theories are available that can make Medicine infallible. There are no lemmas and no theorems. It must depend on evidence provided by observations and experience. Medicine is largely an inductive science and has very little space, if any, for deductive methods. If a treatment regimen has worked in Mr. Somebody and nine others of his clan, there is a high likelihood that it would work in the eleventh also of that type [2].

Today, all branches of Medicine are becoming research-driven, for, as per the contemporary understanding, it is not enough for a system that claims to be a part of medicine to be well-followed, it must also be well-researched. Homeopathy, then, is no exception to the rule. If on

one hand the popularity of this system is growing by leaps and bounds, on the other, it is being subject to the research-based scepticism just as much. The questions about its being *plausible, scientific and effective* are raised by the sceptics very often. As much as one would want to, this kind of scepticism cannot simply be wished away. So what is required first is that we understand the challenges lying ahead of us and then learn the ways to tackle those barriers to progression in a rational way.

Understanding Scientific Research

Research is the systematic investigation and study of materials and sources in order to establish facts and reach new conclusions [3]. In the 21st century, as in other arenas, research has made inroads into the world of Medicine and with its effect, the Homoeopathy sector has begun to realize the need for scientific research. Every well carried out, authentic research adds further validity and plausibility to the system. To the new generation of homeopaths, it is important that research does not remain an alien word with little understanding on the subject. It is important to know the meaning and purpose of scientific research to take Homoeopathy to a coveted level in today's science-oriented world.

Medical research follows a series of specific steps. There are no shortcuts. Collection of evidence and its analysis should follow a carefully drawn protocol. Researcher must have an adequate knowledge and skill to carry out an effective research. The endeavours should be consistent with the accepted medical and research ethics [1]. These days, all clinical work being carried out in Homeopathy is subject to evidence so that the outcome is internationally accepted or published.

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However, it is important that we are aware of the research areas that need more attention and the results of which would assure higher credibility for the system in the field of medicine.

Prominent Research Areas for Homeopathy

Plausibility

Despite 200 years of practice of Homeopathy, and despite a number of recent studies documenting homeopathic treatment effects under double-blind conditions, the medical and scientific community has generally dismissed these findings because of a lack of a plausible mechanism for the observed effects [4].

Medical interventions are usually supported by explanations for how they work and the same is true of homeopathy. Scientific explanation for a mechanism of action is important because this can lead to refinement of medicines: for example, new vaccines for viruses based on the known mechanisms of immunization. Understanding a mechanism of action can also enable the development of entirely new medicines: for example, the persistent threat of resistance means that new anti-malarial drugs with novel mechanisms of action are continually required [5]. The expectation of an explanation for a mechanism of action is that it is both scientifically plausible and demonstrable. Lack of a fool-proof explanation of mechanism of action of homeopathic medicines has long held the ground from progression for Homeopathy. In fact, a prior disbelief in homeopathy is rooted in the perceived implausibility of any conceivable mechanism of action. Plausibility bias impedes assessment of the clinical evidence too.

It is, therefore, very important that the scientific plausibility of Homeopathy is achieved sooner than later. There appear to be two main concerns. The first is the principle of like-cures-like and the second is about how ultra-dilutions could retain characteristics of the active ingredient. Homeopathy remains controversial because medicines in high potencies such as 30C and 200C involve huge dilution factors (10^{60} and 10^{400} respectively) which are many orders of magnitude greater than Avogadro's number, so that theoretically there should be no measurable remnants of the starting materials. No hypothesis which predicts the retention of properties of starting materials has been proposed nor has any physical entity been shown to exist in these high potency medicines. In this context, though, a breakthrough has already been achieved. Using market samples of metal-derived medicines from reputable manufacturers, a study has been able to demonstrate the presence of physical entities in these extreme dilutions, in the form of nanoparticles of the starting metals and their aggregates for the first time. This has been made possible with Transmission Electron Microscopy (TEM), electron diffraction and chemical analysis by Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) [6]. There is gradually growing evidence that homeopathic preparations can exert biological effects; due consideration of such research would reduce the influence of prior beliefs on the assessment of systematic review evidence [4].

Clinical efficacy

Lack of scientific plausibility is disappointing, but does not necessarily mean that a treatment does not work. What is important is how a treatment performs when tested fairly against a placebo treatment or other treatments. Historically, some medical interventions were demonstrably effective before anyone understood their modes of action. For example, after 150 years of use, there is still debate about precisely how anaesthetics work. It is more important to know whether a treatment works-its efficacy-than how it works [7]. A good

number of researches are being carried out that project the science in an unreasonable or ineffective manner. In fact, in February 2010, the Commons Science and Technology Committee report of England, concluded that there has been enough testing of homeopathy and plenty of evidence showing that it is not efficacious. According to the report, all the clinical trials done for evaluation of Homeopathy, taken in their totality, are most consistent with nonspecific effects and placebo responses [7]. A much talked about review that projected Homeopathy as placebo compared 110 placebo-controlled trials of homeopathy matched according to disorder and type of outcome to trials of conventional medicine. The study only included trials that were controlled, included randomized assignment to treatment or placebo groups and were accompanied by sufficient data for odds ratio calculations. The authors concluded that when analyses were restricted to large trials of higher quality, there was no convincing evidence that homeopathy was superior to placebo [8]. However, many wrongs have since been pointed out in this study. Yet, the fact remains that a huge number of very strongly positive trials are needed to outweigh all of the negative ones.

Another aspect of effectiveness is patient satisfaction. The soaring popularity of homeopathy indicates that many patients are satisfied. In an observational survey of over 6,500 patients over a 6 year period conducted by Bristol Homeopathic Hospital, 70% of follow-up patients reported improved health, 50% reported a major improvement. Another survey of 500 patients at the Royal London Homeopathic Hospital showed that many patients were able to reduce or stop conventional medication following homeopathic treatment [9]. Closer home, the patient satisfaction level was documented in a study carried out in the Delhi homeopathic dispensaries run by Delhi Government, which showed that 89% of the patients surveyed were satisfied with the homeopathic treatment [10]. Further, there are plenty of Indian clinical studies that suggest efficacy of homeopathic medicines in various diseases etc. However, with the standards for the clinical trials getting more stringent, only a few have been able to meet the international criteria of scientific acceptance and published internationally. These include studies on conditions like tuberculosis, chronic sinusitis, skin problems, respiratory illnesses among others.

A researcher willing to work in the area of clinical conditions should aspire to take up a research on the conditions that have not been well-researched or adequately represented in peer-reviewed journals. Otherwise, a research, carried out after application of much effort, resources and time, might prove to be insignificant in terms of overall impact on the system, owing to way too many researches on same condition. If at all a condition must be repeated, the aims and objectives should be made to differ from the previous researches on that condition, in order to point out the unexplored aspects of that condition in relation to homeopathic treatment. Thus, there exists a dire need to not only comprehend the methods of conducting standardized research studies, but also employing those in the right direction.

Cost effectiveness

Although the fact that Homeopathy is cost effective is widely known, it is not really a unique selling point, unless it is clubbed with the factors like plausibility and efficacy. However, with the price of conventional and other systems of medical treatment becoming dearer, it is a great time for exploring the economical angle of the system. Well-documented studies in this respect have been able to show a substantial difference in the expenditure incurred by various health policies involving homeopathy as a method of treatment. Homeopathy is not merely a gentle form of medicine but also reduces costs, something well

worth thinking about in a compulsory insurance practice [11]. A case in point is that of the homeopathic physicians in France who incur 42% less of the total per annum health expenditures than those of general practitioners, plus annual reimbursement out-lays which are half as much. In India too, a study revealed that the expenditure incurred in running the homeopathic dispensaries was one-fifth of the expenditure in allopathic dispensaries [10].

Further establishment of this cost-effectiveness factor, with respect to the efficacy of treatment and patients' satisfaction, can make for a convincing point for the governments of various countries to encourage the spread of Homeopathy.

Public faith

Over the past 30-40 years, Homeopathy has benefited from growing demand, both from doctors and from the public in the majority of the European countries. According to a 1996 survey in Europe, three out of four Europeans know about homeopathy and of these about 30% use it for their health care [7]. A poll carried out in Norway in 2001 showed that 52% of the population were of the opinion that homeopathy should be a part of the public health service there [12]. Homeopathy is regarded with scepticism by the establishment yet it is widely used by the general public who often experience it as a useful adjunct to conventional medicinal care. While the plausibility of homeopathy is of concern to many scientists, its widespread use leads health services researchers to call for more and better research into the evidence in the interests of the public good [7]. In India, it just requires a visit to a homeopathic government dispensary to assess the amount of faith public poses on this system. The dispensaries are found to be buzzing with activity, just as much as the other systems. The expression of this faith is both the cause and effect of the government support and recognition that Homeopathy enjoys in India. Still, a lot needs to be done in terms of launching nationwide campaigns to make public more aware about the efficacy of Homeopathy, and also, in turn, to assess the effect of homeopathic treatment on national health system, as a whole. This can be demanded from the government more effectively if the demographic data speaks clearly in the favour of Homeopathy. Thus, researches and surveys assessing what kind of population, in terms of gender, economic strata, occupation and location prefers homeopathic system needs extensive research.

Veterinary and plants researches and *in vitro* studies

Homeopathy has long been regarded as a 'placebo' therapy resulting from the long interactions between the patient and doctor, leading to a therapeutic effect, or, in other words, 'placebo' effect [13]. Overcoming this 'placebo' bias can be best done by proving the action of homeopathic medicines on animals, plants and through *in vitro* studies. Homeopathy has been used in veterinary medicine since the early 1900s. In North America, its usage has increased since last 20 years. United States even runs a professional course in Veterinary Homeopathy [14]. In India, Homeopathy is widely used for treating animals and plants for various conditions, but regrettably, the reports are not largely documented. This leaves a lot of room for research work. Well-documented researches in veterinary and botany fields are more plausible than those done on human beings. The positive results from studies done on animals can overrule the benefit of doubt that goes in favour of 'placebo effect', on the basis of which many clinical researches involving human beings are written off by the critics.

Human pharmacokinetic *in vivo* studies or clinical trials are often presumed to serve as the "gold standard" to assess Product Bioequivalence (BE) of Immediate-Release (IR) solid oral dosage forms.

However, when this general assumption is re-visited, it appears that *in vitro* studies are sometimes better than *in vivo* studies in assessing BE of IR solid oral dosage forms. Reasons for *in vitro* studies to sometimes serve as the better method are that *in vivo* studies: (a) reduce costs, (b) more direct assessment product performance, and (c) offer benefits in terms of ethical considerations [15]. Therefore, the trend of *in vitro* studies is fast catching up in the field of medicine. Since these studies are done under strict laboratory conditions, the subjective assessment of improvement in a condition is also overcome by clear objective assessment of the result, leaving little scope for misinterpretation of the results. Going by the current standards, it can be said that one successful *in vitro* study is competent enough to get the point across in a more scientific and obvious manner than a few clinical research studies done for the same condition. For example, a recent Indian *in vitro* experiment clearly indicated preventive role of a homeopathic medicine Belladonna against JE glutamic acid residue in the active cleft and calyestegines, the results being highly statistically significant [16]. However, the primary disadvantage of *in vitro* experimental studies remains that it can sometimes be very challenging to extrapolate from the results of *in vitro* work back to the biology of the intact organism [17].

Literary research

Literary researches, through which one can gauge the relevance of the voluminous homeopathic literature available in the Materia Medica, Repertory and Organon and testify its validity in the current time, are needed to attune the system to a more relevant standard. There are several terms in Materia Medica that are now obsolete, many rubrics in repertory that are either irrelevant, or beyond the scope of understanding and various concepts in Organon that no longer hold true in the present context. To make the seemingly irrelevant portion of homeopathic literature more understandable by way of scientific and/or literary explanation and to omit or replace the obsolete or ambiguous terms and rubrics in materia medica and repertory with more comprehensive ones will not only be a worthy task, but also contribute to the system up-gradation as a whole.

Also, analytical researches on the correct methodology of education, communication and research training need to be carried out for an assured quality boost of the system.

Conclusion

Even though pointing out all the problem areas of research in Homeopathy remains a challenge, owing to its wide sphere and variety, it is important that the young homeopaths willing to take up the challenge of homeopathic research make themselves sound enough to the key attention areas for research in order to proceed in the right direction. Acquainting oneself well with the international methods of research and being clear about the desired result can lead to some really rewarding researches. All efforts of the present homeopathic researchers should be towards but one goal: Enhancing the validity quotient of Homeopathy. As a wise researcher once said, 'it doesn't take several researches to prove the validity of a concept; it rather takes just one self-sufficient, reproducible research to say it all!' It is high time we start our pursuit for 'that one research', but the pathway to that research just might be many other researches on the way.

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