



# SOURCES & EVOLUTION OF MATERIA MEDICA – A META ANALYTIC REPORT

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## ABSTRACT

*The gradual development of Materia Medica involves gathering information on the therapeutic properties of substances (drugs) used for healing, including their sources, preparations, dosages, and uses. Materia Medica, a term from Latin, literally translates to "Medical matters or Materials of Medicine / Drug or Therapeutic Properties of Drug." Hahnemann considered healthy human proving as the only pure source of material medica which can form True Materia medica. Though there are other sources also from which we can obtain the knowledge of the pathogenetic power of medicines namely animal proving, plant experiment, empirical knowledge, doctrine of signature, chemistry, biochemistry, poisoning & clinical experience. Hereby we tried to focus previous studies of those aspects.*

**Keywords:** Materia Medica, Drug, Medicine, Emperical Study, Doctrine of Signature, Human proving, Animal proving, Plant experiment, Biochemistry, Clinical study

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## INTRODUCTION

Homoeopathic Materia medica is the Record Book of Drug Effects on Humans. It serves as a comprehensive record of the effects of drugs on humans. It is founded on the principles of "Drug Proving,"- a method first suggested by Albrecht von Haller (1708-77) that involves proving medicines on human subjects & which was given concrete groundwork by Master Hahnemann.

According to Samuel Hahnemann in his Organon of Medicine §143, Homoeopathic Materia Medica is defined as "a collection of real, pure, reliable modes of action of simple medicinal substances, a volume of book of nature."<sup>1</sup>

Homoeopathic Materia Medica acts as an encyclopedia of the purported therapeutic properties of each homeopathic preparation, which are determined through proving. It functions as a guide for prescribing homeopathic remedies and as a source for compiling Homeopathic Repertory. Earlier materia medicas provide details on the materials and methods used to prepare homeopathic medicines. There are various sources which help us to compile those large volumes of Materia medicas.

## SOURCES & EVOLUTION OF MATERIA MEDICA

### Healthy Human Proving

Healthy human proving is considered the most rational and predominant method for acquiring knowledge about drug effects. Albert von Haller was the first to practice drug proving on healthy individuals. Subsequently, Hahnemann introduced drug proving in a practical setting. Hahnemann mentions himself as a pathfinder of finding the way to determine the pathogenetic effects of drugs through healthy human experimentation. Later the healthy human experimentation modified by Double blinded clinical trial by Drysdale & after that form as Phase I clinical trial by FDA of USA Govt. & recently it was again modified by Homoeopathic pathogenetic trial by Flavio Dantas.<sup>2</sup>

### Plant Experimentation

Plant experimentation involves studying the botanical changes, including morphology and histology, as well as observing pathological changes in the human body produced by drugs. For example, Thuja has been studied for its medicinal properties. For example, a study has been done in Ecuador to see the effects on germination of different medicine where Arsenicum album 30C promoted germination. Also it is shown that **Arsenicum álbúm** and **Baryta carbonica** had increased the rate of germination, growth and photosynthetic activity of **Pisum sativum**<sup>3</sup>

### Animal Experimentation

Drug experimentation on animals has allowed for the observation of chemical and physiological reactions to drugs. This includes studies on mice, guinea pigs, monkeys, and other animals. Though Hahnemann had not given any provision for drug proving we should adhere to Hippocratic maxim, "Primum nocere" that is first do no harm. To take the proving upto tissue level animal experimentation is required.<sup>4</sup>

## **Rituals and Worships**

The use of drugs in rituals or worship was followed after the study of their other virtues. Many plants have proven their medicinal value through this method. For instance, attention was drawn to *Leptandra virginica* due to its resemblance to Christ's face. *Santalum* or Chandan is used from ancient time in hindu rituals which later found to be anti-inflammatory, anti-oxidant, anti-microbial and anti-proliferative, anti-cancerous.<sup>5</sup>

## **Doctrine of Signature**

The Doctrine of Signature, introduced by Philippus Aurelius Theophrastus Bombastus von Hohenheim, better known as Paracelsus, though the concept was well known from the time of Dioscorides & Galen; suggests a relationship between the external physical properties of a drug substance and the signs and symptoms observed in the patient. For example, the red juice of *Hamamelis* is indicative of its use in treating blood diseases. Then *Cyclamen* leaves look like ear, so it can cure earache.<sup>6</sup> The surface of leaves of *Marchantiophyta* or liverwort looks like liver, so it is effectively used as liver ailment remedy.<sup>7</sup>

## **Empirical**

This is the basic understanding of how drugs work, based on trial and error, rumours, or observation. It's a traditional way of knowing. This can be seen when looking at the overall effectiveness of medicines. When genuine rational scientific data is extremely limited we somehow have to rely on these empirical evidences.<sup>8</sup>

## **Chemistry**

This field focuses on the makeup of substances, elements, and their reactions, as well as the outcomes of their formation and breakdown. Understanding chemistry, including the physical and chemical properties and the laws of chemistry, has been crucial in treating human illnesses. For example, acids are known for their corrosive and harmful effects on tissues, leading to burning, inflammation, ulcers, excoriation, and foul odour. Potassium iodide have protective effect on thyroid gland from radiopharmaceuticals, & it also found to be an effective medicine in thyroid disorders.<sup>9</sup> The famous chemist Fredrich Gren once told from the knowledge of chemistry we can gain insight of any drugs' therapeutic efficacy.<sup>10</sup>

## **Biochemistry**

This area provides insights into how substances act on the body, based on the knowledge gained from studying their biochemical effects on the body. This includes understanding how drugs affect different systems or organs. For example, Potassium plays an important role in cell action, so its imbalance causes electrolyte imbalance, Sodium & Chlorine plays an important role in oxidation, its imbalance causes digestive disturbance; Calcium forms bone & have important role in muscular activity; so its imbalance disrupts those functions.<sup>11</sup>

## **Poisonings**

This category encompasses information on cases of self-harm, accidents, and intentional harm. Within this, toxicology focuses on poisons, narcotics, or any other substances. The symptoms reported from poisoning cases have been invaluable. The toxic effects of a substance can serve as evidence of its medicinal properties. Toxicology was considered as 1<sup>st</sup> rudimentary true pure material medica by Hahnemann<sup>12</sup> For example, *Nux vomica* toxicity is manifested by neuromuscular hyperexcitability with agitation and muscular spasms followed by convulsions, rhabdomyolysis, liver injury, metabolic acidosis and respiratory and cardiac arrest. We found these symptoms in human proving also.<sup>13</sup>

## Clinical Experience

This refers to the discovery of a drug's effectiveness in treating patients through practice. It's also known as the accidental source. New symptoms that emerge from the use of a drug, not observed during its testing, are clinical symptoms. These symptoms also contribute to the development of the Materia Medica, which is a collection of drug effects observed in patients. There are several material medicas based primarily upon clinical experience like Clarke's meteria medica, Boericke's materia medica, Farrington's material medica. From old times clinical observation made an important source of material medica as until the period of renaissance Dioscorides work served as most important sourcebook of materia medica which scores many clinical observations.<sup>14</sup>

## CONCLUSION

Though healthy human proving is considered as the primary source of material medica, other sources like animal proving, plant experiment, empirical knowledge, doctrine of signature, chemistry, biochemistry, poisoning & clinical experience have contributed a hefty amount throughout the long journey of material medica.

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