Research in Ayurveda

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Abstract

Not withstanding the fact that there is an increased interest in the Ayurvedic system of medicine throughout the world, a series of questions are being raised regarding the scientific basis of the system, standardization of its medicines, the ability of Ayurvedic physicians to talk the language of current day scientists and the doctors trained in western medicine etc. Terms such as scientific rigour, objectivity, scientific evaluation, transparency, rational approach and clinical trials are used in almost all the meetings on traditional medicinal systems. A tremendous amount of national and international funding is available for research in traditional medicines. There are a number of groups –- allopathic doctors, chemists, biochemists, pharmacologists, engineers, biologists etc. – availing these funds and working on various aspects of scientific validation and standardization of Ayurvedic treatment and drugs. Considering the fact that Ayurveda understands the human body and treats diseases from a perspective different to that of western science, one has to look very carefully at the question of scientific validation and extreme care has to be taken to choose the appropriate experimental and clinical models. In this complex scenario, the challenge lies in setting the standards and addressing the right questions. If done with ingenuity, the results can be very rewarding. Does the current scenario in Ayurvedic research address the above concerns? This aspect will be discussed in this paper.

The turning of an increasingly chemicals-weary population towards natural products has renewed interest in plant-based drugs. Though not completely true, the general perception is that herbal products are safe and free from side effects. The holistic approach to health problems is another reason for the revival of interest in indigenous systems of medicine like Ayurveda. Not withstanding this increased interest, a series of questions is being raised about the scientific basis of the system, standardization of the medicines, use of modern parameters to define Ayurvedic parameters etc. The need for objectivity, a scientific evaluation, a rational approach and clinical trials are discussed in almost all meetings on traditional medicinal systems.

Ayurveda is the distilled core of knowledge obtained after years of trial and experimentation. Hence, it is important for anyone interested in research in Ayurveda to understand the principles behind it and the rationale behind the methods of diagnosis, treatment, preparation of its medicines etc. Since the bulk of the research is carried out by scientists who are not trained in Ayurveda, caution has to be exercised to make sure that the research is a fruitful one for Ayurveda.

Conventional medical research is always driven by problem identification and the demands made by allopathic doctors. These are often patient or treatment specific questions. Scientists from different disciplines such as chemistry, physics, engineering, biochemistry, pharmacology, mathematics, biology etc. work in unison to address the

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questions put forth by the medical fraternity. Since research in Ayurveda is being carried out along the lines of allopathic medicine and science, it would be interesting to see whether a similar situation exists in the case of current Ayurvedic research. In other words, is the scientific research in Ayurveda carried out in response to the queries and demands put forth by Ayurvedic physicians? The answer is sadly a "no".

Just as research in allopathic medicine takes the system forward and helps in its advance, research in Ayurveda should also help in the development of the system and in taking it forward. Let us look at some of the problems studied by the researchers of Ayurveda. They are standardization and quality control of drugs, correlation with modern parameters, toxicity studies, finding active ingredients and developing new herbal medicines. Most of these topics have got nothing to do with Ayurveda, especially the last one.

The development of new herbal medicines, apart from helping pharmaceutical industries, is used to further strengthen the allopathic system. These herbal medicines are not Ayurvedic medicines and hence are used by allopathic doctors and not by Ayurvedic physicians. Only medicines prepared as per Ayurvedic pharmacology and principles can be called Ayurvedic medicines. As for the standardization and quality control of Ayurvedic medicines, these cannot really be called research topics in the true sense. These are present day necessities.

Research in Ayurveda should be categorized into two aspects. One is to improve the science, and the demand for this should come from the Ayurvedic community. Some of the research problems of interest to Ayurvedic physicians are Ayurvedic pharmacological properties of new plants, new formulations with new plant entities, Ayurvedic nutritional properties of new food materials and items, looking into the possibility of how to use present day diagnostic techniques for Ayurveda. The second aspect of Ayurvedic research is due to present day compulsions, and under this would come studies such as quality control of drugs, clinical trials, documentation, studies on metallic preparations and toxicity studies of these drugs.

Looking at the question of quality control of Ayurvedic drugs, while this is very important, one has to very carefully look at how to carry it out and extreme care should be taken to select the experimental and clinical models. The parameters chosen for evaluation should reflect the essence of Ayurveda. For example, there are a number of functional parameters in Ayurveda, such as *deepana*, *pachana*, *samshodhana*, *samshamana*, *anulomana* etc. used to understand the pharmacological action of Ayurvedic drugs. It would therefore be more appropriate to use these in evaluating the quality of Ayurvedic drugs that are prepared according to Ayurvedic principles and methods. These methods are very different to how allopathic medicines are prepared. It is very important, therefore, to use the right methods and parameters to arrive at fruitful results. The challenge lies in choosing the appropriate experimental and clinical models and addressing the right questions. Great ingenuity would be required in the design of these studies, and if done properly, the results could be very rewarding.