Need of Funding Opportunities and Challenges in Ayurveda Research.

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Research has become a part and parcel of any professionalism. Mainly, in field of education, medicine and technology. A doctor or any medical health care worker is going through research process every day and night throughout the life. Medical research is a broad spectrum which varies from basic clinical, pre-clinical to clinical research like RCTs. Currently, interest in Ayurveda research from a public health perspective, is increasing globally due to its ability of improving quality of life and assist individuals to stay healthy. Ayurveda has been successfully tackling the health problems of people of our country for centuries[3]. But apart from all these the rapid increasing research should need fundings from different government bodies to promote more and more practitioners and ayurved research scholars for research. In the United Kingdom, funding bodies such as the National Institute for Health and Care Research (NIHR) and the Medical Research Council derive their assets from UK tax payers, and distribute revenues to institutions by competitive research grants. The two most important components of any research project are idea and execution. The successful execution of the research project depends not only on the effort of the researcher but also on available infrastructure to conduct the research. The conduct of a research project involves expenses on man and material and funding is essential to meet these requirements. It is possible to conduct many research projects without any external funding if the infrastructure to conduct the research is available with the researcher or institution. Research funding is required to meet these expenses and smooth execution of research projects. Securing funding for the research project is a topic that is not discussed during postgraduation and afterwards during academic career especially in medical science. Many good ideas do not materialize into a good research project because of lack of funding.[2]

Research is not just a two- or three-days learning process but a study on a specific topic from all possible aspects. Collecting evidence and documenting it becomes increasingly difficult when ideas are not clear about drafting, also safety issues arrive. Medical research (or biomedical research), also known as experimental medicine, includes a wide range of research, extending from "basic research" involving fundamental scientific principles that may apply to a preclinical understanding – to clinical research, which involves studies of people who may be subjects in clinical trials. Within this spectrum is applied research, or translational research, conducted to expand knowledge in the field of medicine. Clinical research and therapeutic studies in Ayurveda are overwhelmingly needed much more than any other kind of research if the needs of millions of potential users of Ayurveda are placed above other kinds of research. It is difficult though possible to publish papers without any external funding; observational research and experimental research with small sample size can be conducted without external funding and can result in meaningful papers like case reports, case series, observational study, or small experimental study. However, when studies like multi-centric studies, randomized controlled trial, experimental study or observational study with large sample size, it is completely impossible to conduct the study within the resources of department or institution and a source of external funding is much required. The rapid transition to modern biology in the 1990s and the advances in technology is all aspects of medical and biological sciences left most Indian Institutions at a great disadvantage. They did not have the required financial resources to upgrade the laboratories and investigative centres. The Science Agencies recognized this deficiency, especially on its impact on science teaching.[1] There was an era when there used to be a lack of leadership and commitment from successive governments into investing in Ayurveda research – the total annual funding available for Ayurveda research, education and services for the whole country was less than that of many average sized biology departments in a major science nation like the United States. But it's true that the budget for Ayurveda research reaches a critical amount now also.[4]

As every coin has two sides, one the other hand unlike modern medicine ayurveda lacks in few aspects such as, proper mode of action, pharmacology, pharmacokinetics, and pharmacovigilance of many important Ayurvedic drugs are still not fully explored, knowledge of the basic ideologies of Ayurveda is poorly acceptable scientifically due to lack of evidence. In the modern time, when the Western medicinal system is reached almost at the top because of validated research and advanced techniques, there is an urgent need to validate basic principles as well as drugs used in the ayurvedic system of medicine with the help of advanced research methodology. Therefore, advancements in the ongoing research methodology are highly required for the promotion of Ayurveda. This can also hamper the trust for funding in research studies. Young Ayurvedic scholars, although enthusiastic, are not clear about their views on the

future of Ayurveda. Moreover, they are not even very clear that how to expose their valuable research outputs on Ayurveda.

· Only a few organizations have well-established research infrastructure for exclusive research in Ayurveda. Experienced ayurved researchers with knowledge of modern technologies are required to conduct advance and quality research in Ayurveda.

· Also, the post graduate scholars have limited period of time to complete the research study. Hence the study is in concise manner.

· There is a lack of understanding, cooperation and willingness of Biomedical Scientists.

· More than a thousand Ayurvedic postgraduates pass out each year and enter into the streamline of academics and practice. Among them, only a few choose their profession as researcher in Ayurveda.

· Neither has the Ayurvedic teaching methodology has changed in the last 20 years nor have the textbooks enriched with new research methodologies and techniques for research in ayurved.[5]

Hence, rather than competing and bending towards the Western medicine, the Ayurvedic scientists should work to enhance the core capability of Ayurveda without compromising its fundamental principles. These are some of the following major points those should be highly needed to consider in the Ayurvedic research for its advancement.

Also, one of the reasons why Ayurveda is facing lack of fundings, as a widespread assumption that prevails among Ayurveda teachers is that there is no need for carrying out any research in Ayurveda because whatever has been written in ancient classical textbooks is the ultimate truth and has been written only after sound research. However, they fail to recognize that in classical textbooks too, it has been clearly stated that accepting any theory without repeatedly examining it is not the sign of a good physician. Further, the descriptions that were documented hundreds of years ago need not necessarily match with the present-day situation. There might have also been a loss of information during its transfer from one version of the textbook to the next. Therefore, there is a need for inculcating the habit of questioning among Ayurveda teachers and students, and only then, good research questions will emerge. Lack of exposure and training of methodical research trials of various kinds, at institutional level are responsible for lack of research accuracy in individual and institutional practices.

Ayurveda is a complex system that consists of multiple clinical and other parameters while deciding a specific line of treatment. These parameters include individual (*Prakriti*), digestive strength (*Agnibala*), nature of bowel (*Koshtha*), *Saama-Niraama* state and many more. Further, the diagnosis of a disease in Ayurveda too is complex one. For example, different individuals suffering from the same clinical condition may be diagnosed by different names such. Further, there could be external factors such as seasons (Ritu) and place (Desh) that might differ in each of these individuals. This in fact leads to many possible permutations and combinations in interventions. In a nutshell, different patients suffering from same disease may receive different interventions according to Ayurveda. This is the reason why available literature on Ayurveda clinical trials is grossly insufficient as there is a huge gap between how Ayurveda is practiced and how it is researched. Hence it creates a confusing and thoughtful environment for funder to confidently invest in study of Ayurved Research scholars as they get dicey for the output.[5]

Funding can be supported by ICMR, CSIR and AYUSH who should assign at least 70% funding for clinical research through therapeutic and observational studies. The justification is on account of public need and subsequent demand. To conclude, Ayurvedic researchers need to be educated of impact of publications of research through the supervisors/ universities by imposing publications as one of partial requirements for award of research degrees. Major Ayurveda research funding agencies can consider sparing grants exclusively for publication of research in indexed journals similar to granting money for a research project. For globalisation of Ayurveda every researcher must work towards bringing out quality publications as powerful tools for growth and development towards international acceptance of Ayurvedic medicine.

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