Policy Research for Assessment of Quality Assurance Practices in Skill Development of Doctoral Programs in Medical Institutes

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Introduction

Doctoral programs in India are focused around empirical laboratory and field studies with theoretical and computational explorations aimed at addressing fundamental issues in the field of science. PhD students are often motivated to pursue the PhD by scientific curiosity, the desire to contribute to the academic and social community, and/or personal development. However, in the absence of basic research administration and because of overemphasis on patient treatment, the quality research of ecosystem in medical institutes remains soft [1].

DST recently started the Policy Research Fellowships to promote policy-related investigations. Since Science and Technology is now recognized as playing a significant role in advancing human, social, and economic development and addressing the aspirations of citizens across the world, the need to integrate quality assurance tools in Doctoral programs cannot be over-emphasized. An analysis of the nature of biomedical research in India indicates that most of the research has primarily been of academic nature and has rarely assessed the methods in research with any policy implications [2]. Along with “fabrication” and “falsification,” plagiarism is one of the “big 3” crimes of the research fraud rising

in India [3]. Therefore, a need for quality control is urgent. A quality policy is required in Institutes for Doctoral Programs. This can be done by incorporating methods to render raw data verifiable, back-traceable, and auditable.

Introduction of a policy management system for doctoral programs in medical institutions can help in linking research with quality assurance so that the resources, time, and efforts can be utilized in an efficient way for enhanced productivity, innovation, translation, and skill development. Such assessment tools can enable the establishment of a quality system. This can ensure and validate the uniformity, consistency, reliability, reproducibility, and quality in research data. It is possible to analyze this by 4-tier assessment: (i) by way of measuring the time spent by students in PhD program, including regular laboratory hours, (ii) what are the quality tools used/created by them, (iii) their number of publications, patents published during the course, and (iv) whether any quality statements were inserted in their respective research publications. The student’s skill development program can also be gauged by the number of their visits to national and international workshops and conferences as well as their participation in social outreach activities. The costs involved in completing PhD degree can also be documented.

Such analysis can also include the number of principal investigators in the department and their qualifications, ongoing projects and those completed, amount of funding and the number of invited talks to national and international conferences, including ones on quality and management meetings. Their awards, grants, and leadership roles in the launch of social outreach programs for training of PhD students must also be measured. It is also possible to map the number of national and international collaborators, with interdisciplinary teams, if any, and the time spent by faculty with students on bench must also be assessed.

Similar quality audit at the administrative level can be done by assessment of administrative record keeping, file tracking, monitoring and documentation processes engaged by the administrative staff including efforts to continue providing guidelines, institutional independence to faculty, students and managerial support for procurement, and quality programs with allocation of various portfolios to various Deans etc.

The quality assessment must not exclude the funding agencies' commitment to implement quality audit of experimental facilities funded by them. Even the publishers or societies can make a commitment to periodically assess the journals, wherein all data regarding number of manuscripts submitted for publication, efforts to recall raw data from authors could be open to public eye. The retraction policies for articles must be matched to number of retractions executed by them.

The policy research studies will help in improving the quality of doctoral programs in medical institutes and help in establishing individual quality assurance cells in research laboratories matched to the qualifications of PIs. Such studies will also help in ranking and mapping the labs in a systematic and evidence-based manner so that crucial national projects may be funded to facilitate "Make in India" program a grand success. If successful, it will help in improving research quality, social values, productivity, and skill development of PhD students across the country and world.

The policy scoring may also help in incubating ideas which may result in new tests and therapies, which are invariably imported at the cost of indigenous discoveries which are devoid of quality and benchmarking. Currently, the quality benchmarks are not mandated by funding agencies even though Universities have Quality Assurance Cells.

Recently, DST started policy research fellowships to promote policy research. Ironically, all post-doctoral fellowships were assigned to 5 centers of policy research. Interestingly, junior research fellowships were not provided to anyone which is a self-defeating step.

The periodic rolling out of policy research fellowships will help emphasize the importance of the need for linking release of research grants and fellowships in order to promote Science and Technology in Medical Institutes and universities.

References

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