Policy research into Quality Assessment of Published Data from Medical Institutes Can Increase the Authenticity of Translation

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Scientific misconduct in basic and clinical research is increasingly being reported at an alarming rate.[1] According to a study, more than 40% of the researchers that were surveyed were aware of the malpractice but they did not report it. Similarly, a study conducted by Sheehan et al in 2005 reported that 17% authors of clinical trials were aware about their fabricated data.[2] India stands third in queue in terms of highest number of publications after the USA and China.[3] But, it is embarrassing that many scientific researchers have fraudulent publications, and this is supported by huge number of recent cases. It is reported that several papers published in reputed journals contained duplicate, fabricated, or reused images. As of now there are 980 manuscripts from India that have been retracted, out of which 33% was due to plagiarism, and in 13% of the cases image duplication or fabrication was seen[4]; there were very few out of genuine quest for authorship. According to a report published in *Nature India*, most of the retracted cases in 2017 were reported from India.[4] Recently in 2019, we witnessed about 130 papers published by researchers from CSIR-Indian Institute of Toxicology of Research, Lucknow, which were found to be problematic. Similarly, 31 publications from Central Drug Research Institute, Lucknow, while 35 papers from Bose Institute, Kolkata, were found to be duplicate or manipulated.[5] In some cases, it has been seen that the published work was not approved by the ethical committees. Therefore, the key question is: Why this is happening? What is the need of research misconduct?

Most research labs funded by different funding agencies (DST, DBT, CSIR, ICMR, AYUSH, DAE, etc.) do not maintain raw data after research work is over. In order to overcome these drawbacks, a policy research can be initiated in different Institutes across the country that can validate (a) whether the published work contains ethical clearance statement from the respective ethical committees (clinical trial registered on CTRI), (b) whether the published work is plagiarized or not, (c) whether the results from various funding agencies projects have been acknowledged in the published manuscripts, (d) whether the published graphs and tables in the manuscripts match with the raw data available. Files/raw data and other project-related work can be reviewed. Editors of the journals can be approached to provide the details of the published work by contacting the academies who run these journals. Additionally, whether the bench work has been carried out according to the Good Laboratory Practice (GLP) guidelines or not can also be assessed.[6]

At the institution level, there are various rules and guidelines for responsible conduct of research.[7] This includes ethical orientation and guidance for researcher, instituting plagiarism check before submission, availability of data in the repository system, supervision of research being conducted, data ownership, data retention, and long-term storage in the form of e-copy besides early reporting of any such misconduct, etc. Besides, an assessment of whether administrative actions have been taken by the host parent institute or not can also be documented. This may include retraction of all the published articles, suspension, removal from the particular project, ban on getting future projects or strict supervision on other projects, ban from any future publications, probation, and termination from the Institute. Besides this, the publishing journal itself has strict guidelines (retraction of article, ban from future publication, penalty, etc.) to counter any such misconduct. Despite of having these strict guidelines, there is a lack of nationally organized framework for handling scientific misconduct which makes basic and clinical/ scientific research more susceptible in medical institutes than anywhere else. It is important that the research being

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conducted poses some benefits to the mankind. Therefore, it is important for us to follow GLPs. Any malpractice not only affects those that are directly involved but also poses a threat to science and technology, and humanity in general.

The solution to any such scientific misconduct is the urgent need for quality control. A quality policy at the institutional level is also required for doctoral programs. This can be achieved by introducing methods to render raw data auditable, back-traceable, and verifiable. In this way, efficient working environment can be created. This will enable efficient productivity and instill scientific temperament.[7] This study will enable the funding agency to implement or impose strict sanction on the PI or researcher that undertook such scientific misconduct. Financial benefits, reliable translation to the society, improved products and services are the outcomes of implementation of good research practices.[8] Based on the data generated from such policy research initiatives, funding decisions can be linked to mandatory implementation of GLP guidelines.[9]

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