

Research Misconduct in Developing Countries

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Abstract

Research misconduct is a serious problem that have bad consequences on the research integrity, researchers' reputation and credibility of the institution. According to the US federal government, research misconduct is “fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results...”. In this paper we use the broad concept of misconduct like major and minor acts or wrongdoings like inappropriate distribution of authorship or not declaring conflict of interest. The author aimed to address the magnitude of the problem in lower and middle-income countries (LMICs) and to highlight the major reasons for it.

Introduction:

Research misconduct is a serious problem that have bad consequences on the research integrity, researchers' reputation and credibility of the institutions (1). According to the US federal government, research misconduct is “fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results...” (2). This definition focus mainly on three famous types of misconduct, fabrication (making up results), falsification (manipulating processes and results), and plagiarism (stealing other's work), (FFP) while institutions may add to the definition and goes beyond the main three (FFP) according to their policy. For instance, the public health service had defined research misconduct like FFP and any serious deviation from the ethical behavior (3) and another definition is “Behavior by a researcher, intentional or unintentional that do not meet or fulfill the scientific and ethical

standards”. (4) In this paper we use the broad concept of misconduct like major and minor acts or wrongdoings like inappropriate distribution of authorship or not declaring conflict of interest. The author aimed to address the magnitude of the problem in lower and middle-income countries (LMICs) and to highlight the major reasons for it.

Research misconduct in LMICS

Research misconduct has a worldwide spread as research is a worldwide activity. The distribution of the problem is more common in developing countries (5), but the magnitude of the problem in the developing countries and (LMICs) was not addressed sufficiently due to lack of the published data. In spite of the fact, That research output from developing countries increased dramatically in the recent years due to increasing the international collaboration (6). Studies on research misconduct magnitude, attitude and/or perceptions ..etc. of researchers are still uncommon in developing countries (1). The published data may be only the tip of the iceberg and it is still unreliable. But this is not surprising, in US, we can found different counting of the misconduct, one count said it is 1 in 100,000 researchers (7) other counts said it is 1 in 10,000 researchers (8). It sounds that even in developed countries there is no consensus on the magnitude of the problem and different estimates were published.

A meta-analysis of the published data surveys about research misconduct were studied by Fanelli (9), he found that among 18 articles which addressed the problem of misconduct only one study were from Africa and specifically was Nigeria. Otherwise the least of the 18 studies were from different developed countries like USA and United Kingdom. To the best of the author knowledge , There is no systematic review about research misconduct on the (LMICs) and this was observed also by Ana, Koehlmoos et al., in their article “Research misconduct in low and middle income countries” (10).

A recent article published by Rohwer, Young et al., they studied specifically the magnitude of three types of misconduct plagiarism, authorship and conflict of interest. They invited 607 corresponding authors of Cochrane reviews working in LMICs (as a sample frame for active medical researchers) with a response rate (34%). They revealed that one-third of the 198 respondents thought guest authorship was acceptable or did not matter (35%) and 24% of the

respondents said that they had done this. While (96% of respondent mentioned that plagiarism and copying or recycling text without proper acknowledgment is unacceptable behavior and 37% of respondents mentioned that they did not admit plagiarism before but they know colleagues who admitted plagiarism and 12% of respondents agreed that this act occurring occasionally in their institutions. In addition, The same study revealed that there is a weak awareness about conflict of interest and how to treat its issues. (11)

In their article, Marusic et al., demonstrated that authorship manipulation is more common in LMICs than in developed countries. They found that authorship misuse was reported more often by researcher outside of the USA and UK including mainly developing countries: 55% (95% CI 45% to 64%) in comparison to 23% (95% CI 18% to 28%) in USA/UK (12).

Stretton, Bramich et al., reviewed 213 retracted publication datasets due to misconduct in MEDLINE between 1996 and 2008, they revealed that The odds ratio (95% CL) of plagiarism retractions were significantly higher ($P < 0.001$) for first authors affiliated with lower-income versus higher-income countries and with non-English versus English national language countries (13). In another study by Woolley, Lew et al. who studied the retracted paper due to misconduct with restriction to English-language and human research articles, the researchers investigated the factors associated with misconduct retraction. The results was in agreement with what Stretton, Bramich et al., revealed that retraction was significantly associated with first author affiliated with a low/middle income country (2.34; 95% confidence interval: 1.18-4.63) (14).

A study which discussed the misconduct and specifically plagiarism in Latin America demonstrated that no researcher from Latin America attended the first world conference on research integrity 2006. They revealed that publication on research misconduct was only 10 papers out of 190,700 published articles (15). This was disappointing for the organizers and reflected how lack of awareness about research misconduct among researchers reflects their lack of interest to participate and engagement in scientific meetings.

A study on biomedical researchers in 9 institutions in India demonstrated that misconduct is prevalent, and the most commonly observed misconduct was offering gift authorship, reported by 707 (65%) of the respondent; 52 (33.5%) respondents had observed a colleague's, name who had

not had proper credit in papers which she/he had substantial contribution; data falsification reported by 88 (56%). Plagiarism was observed by 83 respondents (53%) (16).

Main factors that driving research misconduct in LMICs

Having to said that Research misconduct is a global problem and the unprofessional conduct of research have to waste a lot of sources and funds directed to research and also have a consequence on the public community. The factors that mainly driving the research misconduct are various. These factors are also in line with the reasons for misconduct in LMICs. They include the power of the research institution and the academic culture. High ranked academic institutions took good steps towards increase awareness among their researchers about the responsible conduct of research (17), the absence of the role of mentors who are supposed to help junior researchers to develop their career with honesty and integrity. Rohwer, Young et al., argued that sometimes junior researcher are more aware about rules of ethical and responsible research principles but they are discouraged by their seniors (11)., Language barriers especially in non-English speaking countries where writing in scientific English is challenging, Smith, Hunt et al. reported that non English speaker researchers may invite well known English speaking authors to be co-author even without substantial contribution in the work, they tend to do this to avoid what is known as editorial bias (18). Editorial bias could occur when some journal editors favour research from English speaking researchers(19). Limited access to scientific literature(20) which might explain why researchers in LMICs tend to use as much information and content from very limited numbers of freely accessible articles.

It is obvious that most developed countries have a well-established policies and extensive guidelines about research integrity and responsible research in comparison to most LMICS “*who have yet to mount a response.*” (10). Countries who have policies sound to be more willing towards prevention of misconduct and consequently reflect the awareness about the problem among researchers (21).

Conclusions:

Research misconduct is a widely distributed problem. The problem in the LMICs is more than developed countries and various reasons were reported. Reasons included individual reasons like language barriers and institutional reasons like lack of policies and guidelines. A more research studies should be conducted to reach a more accurate estimate of the magnitude of the problem.

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