Editorial

Publish or Perish! But Avoid Scientific Misconducts

Mounir Fawzi

Faculty of Medicine, Zagazig University, Cairo, Egypt.

Egypt. J. Psychiatry, Jan 2010; 30 (1): 1-6

INTRODUCTION

To academics who are working in any field of specialty, including psychiatry, the idiom "Publish or perish" represents an ultimatum which means you got to produce published work or you die career-wise. In Egypt, the Supreme Council of Universities, according to the new reforms, requires that you must have a number of research papers published in peer reviewed journals and that these papers must be satisfactory to the 'Permanent Scientific Committee for Promotion to Professor and Assistant Professor Grades' of your specialty, otherwise you will not be promoted. Expectedly, as pressure over researchers increase, science misconduct also comes to the surface (Errami and Garner, 2008). Indeed, it is a common observation that authors who write only to "Seek academic career promotion" may not bother too much about the quality of the work as they try to achieve their goal more easily by "Copy and paste" technique (Farrokhi, 2009). But does the obligation to publish, even when coupled with an unawareness of the meaning of 'Plagiarism' or a belief that some types of plagiarism are justified, really offer an excuse? My answer is NEVER. It is never a viable excuse. So, beware! The Scientific Committee and peer reviewed scientific Journals, like the Egyptian Journal of Psychiatry (EJP), are concerned too much about scientific misconduct. The aim of this editorial, therefore, is to help bring some awareness among EJP readers on this topic, though to start with, I am not able to answer with any degree of certainty the question how frequent or how rare is the scientific misconduct? This is a matter of great debate (Fanelli, 2009 and Sovacool, 2008)!

Generally, scientists are perceived as well-intentioned seekers of truth and as producers of knowledge vital to the health and welfare of society, while fraudsters are seen as just a "Few bad apples" (Lafollette, 2000) and the public is reassured that fraudulent scientists are ultimately caught and punished. The case of Hwang Woo-suk is one well-publicized example of these instances which are believed until recently to be rare. Hwang Woo-suk and 24 colleagues published in 2005 what appeared to be a ground-breaking paper in Science in which they claimed to have established eleven embryonic stem cell lines containing nuclear DNA from somatic cells of research subjects (Hwang, et al. 2005). Hwang's research put South Korea on the map as a biotechnology epicenter and made Hwang a national hero (Normile, et al. 2006). Investigations conducted by a Seoul National University (SNU) panel, however, concluded that the team led by Hwang Woo-suk fabricated the results for at least 9 stem cell lines. In response, Hwang resigned from SNU. Science retracted the article concerned, and Hwang and several members of his research team were later indicted on charges of fraud, embezzlement of research funds and violations of bioethical laws. However, incidents of fraud and other scientific misbehaviours, until recently, were seen as isolated oddballs who did little damage to science. But in the past two or three decades country after country has recognized increasing examples of fraud. Fuchs and Westervelt, (1996) extrapolated from known cases and assumed that 0.01% of all publications were fraudulent. Studies of the incidence of plagiarism describe an empirical variance from 0.02% to approximately 25% of all articles (Special report, 2005). In a survey by Martinson, et al. (2005) 33% of respondent scientists from United States said they had engaged in serious research misconduct in the previous 3 years. This variance illustrates both methodological problems and the fact that any quantitative analysis of scientific fraud is speculative because most cases are probably not publicized. They are simply not recognized, covered up altogether; or the guilty researcher is urged to retrain, move to another institution, or retire from research. These 'Cover ups' explain why it is so difficult to obtain accurate data on the prevalence of serious research misconduct; but some countries and disciplines have more cases, probably, not because misconduct is more common but because they have actually begun to face up to the problem (Franzen, et al. 2007 and Smith, 2006). Whether the prevalence of research misconduct varies from culture to culture is also not known. Yet, some observers in the West noted that many of those found guilty of scientific misconduct were from foreign cultures, though on examination of the scant available data, it was unclear whether really foreign nationals were disproportionately represented among Office of Research Integrity (ORI) respondents (Davis, 2003). The lack of data, however, does not negate culture as a possible explanatory variable in research misconduct. Applying theories from sociological criminology, Davis,

(2003) posited that the culture some researchers bring to the West may be at odds with the norms of academic science and may emphasize ends more than means. The problem of ensuring ethical practices in human subject research appears to be universal. Nonetheless, in the developing world, the influence of traditional and hierarchical social norms of physician–patient relationships adds yet another dimension to the difficulties in assuring that research is conducted in an ethical manner (Moazam, 2006). In the Eastern Mediterranean Region, the foundations of ethical principles can be found within the three major religions, Judaism, Christianity and Islam. In Egypt, the numerous ethical issues that are emerging as result of the technological advances tend to be addressed in accordance with Islamic principles (Khayat, 2006). Acknowledging the role of culture in the adherence to research ethics, however, underscores the importance of education and training of both researchers and administrators in the responsible conduct of research and cultural diversity (Davis, 2003).

Culture has also its impact on the definitions of scientific misconduct which differ from country to country and from one institution or government agency to another (Mojon Azzi and Mojon, 2004). However, the increasing globalization of scientific research calls for an international agreement on the definition of scientific misconduct. Universal spiritual and moral principles on which ethical standards are generally based indicate that it is possible to reach international agreement on the ethical principles underlying good scientific practice. Defining scientific misconduct to be universally recognized and universally sanctioned means addressing the broader question of ensuring that research is not only well-designed - and addresses a real need for better evidence - but that it is ethically conducted in different cultures. An instrument is needed to ensure that uneven ethical standards do not create unnecessary obstacles to research, particularly in developing countries (Momen and Gollogly, 2007).

Independent of definition, which may vary from a short sentence to long paragraphs, scientific misconduct includes at least the trio “Fabrification”, “Falsification”, and “Plagiarism” (Often abbreviated as “FF&P.”) in proposing, performing, or reviewing research, or in reporting research results. Often also other serious deviations from accepted research practice are included like irresponsible authorship, duplicate publication, bias and conflict of interest and/or intentional erroneous use of statistical methods. Research misconduct spans a wide spectrum ranging from the very serious to what some would consider minor research misconduct. However, honest errors or honest differences in interpretation or judgments of data are excluded from most definitions of scientific misconduct. A finding of research misconduct depends on three requirements. First, there must be “A significant departure from accepted practices of the relevant research community”. Secondly, the misconduct must be “committed intentionally or knowingly, or recklessly”. Thirdly, the allegations must be proved ‘By a preponderance of evidence’ (Smith, 2006). The most important forms of scientific misconduct include the following:

Fabrication:
Fabrication of data refers to the invention or the making up of fictitious data, i.e., data are made up or ‘Cooked’ and then presented as research findings. The case of the Korean professor Hwang Woo-suk mentioned above is an example of fabrication.

Falsification:
Falsification is the changing of data or omitting critical data to produce a desired outcome or to avoid a complicating or inexplicable result.

Plagiarism (From the Latin word plagiarius meaning the theft of words as well as slaves):
Plagiarism is the use of someone else’s words, ideas or results without appropriate attribution. It is a form of academic dishonesty and can be a criminal offense. A surprising number of plagiarism allegations, however, turn out to be misunderstandings of exactly what constitutes plagiarism or proper citation procedure.

Duplicate publication:
Duplicate publication is the publication of an article that is identical or overlaps substantially with an article already published elsewhere, with or without acknowledgment.

Duplicate publication is considered misconduct because aside from the obvious attempt to inflate one’s own publication record, duplication (And redundant) publication has the potential to skew the evidence base (If the same data were counted more than once, the outcomes of meta-analysis used to establish the best practice would be invalid). Guidelines on good publication practice state that the authors can only submit their manuscript to a single journal at a time. Authors may resubmit the same or a revised version to another journal only if the first journal makes the decision not to publish it, or it is withdrawn by the author. In spite of this universally accepted criterion, double submission still occurs and continues to be a real problem for scientific journals. However, with the availability of computerized medical databases, including databases of dissertations, scientific proceedings, and research articles, such as PubMed or HighWire Press, it becomes much more difficult for authors to duplicate previously published work.

Redundant publication:
This is a special type of plagiarism, sometimes equated to duplicate publication. Redundant (Or repetitive) publication is defined as the publication of part or parts

of an already published article with additional new or unpublished data. Redundant publication is considered unethical because of several reasons:

1. It needlessly expands the already extensive body of published literature.

2. It confounds scientific communication by dividing rather than combining closely related data from a single group.

3. It may unduly overemphasize the importance of the findings by having them appear more than once.

4. It may interfere with subsequent meta-analysis by apparently boosting patient or experimental numbers.

Self-plagiarism:
Self-plagiarism (Or auto-plagiarism) is the reuse of one's own previously written work (Same hypothesis, results, and conclusions) in another publication without letting the reader knows that this material has appeared elsewhere. Same authors may be arranged in a different sequence. The concept of self-plagiarism has been questioned. Thus, one may ask: Is it possible to steal from oneself? But the answer can be yes, as Hexham, (1999) put it, it is possible to steal from oneself as when one engages in embezzlement or insurance fraud. The key issue in self-plagiarism is deception. In all forms of self-plagiarism, there is an attempt to deceive the readers and the editors who assume that the material written by the author is new and original.

Self-plagiarism can be classified into:

1. ***Dual submission and text recycling:*** this is a form of a redundant or duplicate publication where a more or less similar paper is re-published in other journals, but without indicating that it is published elsewhere.

2. ***Salami-slicing:*** in this type a study which should have been reported in a single paper is fragmented into two or more smaller published studies. Multiple papers on a particular theme are only acceptable if each builds significantly upon previous work and contains only as much background information as necessary to put the new data and observations into perspective.

3. ***Copyright infringement:*** in this form of plagiarism a material is used without the consent of the copyright holder.

Authorship problems:
Authorship relates more to the intellectual contribution to the project rather than to the practical implementation of it. According to the International Committee of Medical Journal Editors (ICMJE) (Available from: http://www.icmje.org) authorship is defined in the following way:

1. Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data.

2. Drafting the article or revising it critically for important intellectual content.

3. Final approval of the version to be published. All three conditions should be fulfilled for assigning authorship.

Ethical problems regarding authorship can be divided into two main categories:

1. Gift authorship, that is, inclusion of authors who did not contribute substantially to the study, for example, those who provide technical help only, writing assistance, or the chair of the department who provides only general support. These people are relegated to the acknowledgements section. Another form of gift authorship occurs between colleagues and collaborators. In this case a name of a colleague is unjustifiably added to the manuscript in the expectation that the favor will be returned. In this way both authors unethically increase the number of their publications.

2. Ghost authorship, that is, exclusion of authors who did contribute significantly to the study. This usually involves people, such as postgraduate students, who are too junior to protest.

Animal welfare concerns:
It is essential that researchers do everything possible to promote and ensure the humane care and treatment of animals used in research. Animals to be used in the laboratory must be acquired lawfully, properly fed and sheltered, and, under no circumstances subjected to unnecessary pain or discomfort.

Human use concerns:
The origin of advancing scientific knowledge through human experimentation using vulnerable groups can be traced back to ancient history, when Herophilus performed vivisections on prisoners. In recent times, the principles of conducting human research were first developed as the Nuremberg code in 1947 to try 23 Nazi physicians and officials as war criminals for conducting "Studies" of prisoners. The three basic principles of the Nuremberg Code (Voluntary informed consent, favourable risk/benefit analysis, and right to withdraw without repercussions) became the basis for subsequent ethical codes and research regulations (Orticio, 2009 and Rice, 2008). In 1964, the World Medical Association established the Declaration of Helsinki (DoH) which states that "Concern for the interests of the subject must always prevail over the interests of science and society". The Declaration of

Helsinki has since been amended six times in efforts to maintain relevance to current science. The current (2008) version is the only official one. For the psychiatric profession, the Declaration of Hawaii (WPA, 1977) was the first positional statement concerning ethical questions (Okasha, 2003). This was updated in 1996 by The Declaration of Madrid which was enhanced by the WPA General Assemblies in Hamburg (Germany) in 1999, in Yokohama (Japan) in 2002, and in Cairo (Egypt) in 2005. The Declaration of Madrid includes seven guidelines that focus on the aims of psychiatry to treat mentally ill patients, prevent mental illness, promote mental health and provide care and reinsertion for patients (WPA, 1996).

Informed consent:

Informed consent is not a signed consent (Jones, et al. 2005). A signed consent is a documentary evidence of the consent process. To confuse them with each other may be a violation of the ethical intent of informed consent, which is an educational process to generate discussion, in an atmosphere of trust and respect, between researchers and prospective participants to ensure that the decision to participate is made voluntarily and knowingly. Voluntariness implies that the consent is obtained willingly without using force, threats or coercion. The concept of knowledge means that the prospective participant is allowed to enquire about the needed details of the study and is given all of the relevant information, which must be complete and understandable, to make a decision on whether or not to participate. It is important to note that failure to disclose material facts when obtaining a patient's consent for research is fraud. Consent needs to be in writing. If verbal consent is used, you have to give the rationale for doing so, e.g., patient illiteracy or visual impairment, but still you have in this case to get a short form signed or fingerprinted by the patient and co-signed by an independent witness to what was said. Some researchers have advocated the documentation of the process of informed consent by audio-recording, video-recording and photography when patients cannot read (Benitez, et al. 2002). If the participant is not able to give consent, as in some patients with psychiatric disorders, it should then be obtained from the participant's legally acceptable representative, e.g., parent, guardian or designated other, prior to involvement in any research related activity.

In psychiatric research, informed consent is particularly important due to concerns regarding competence to provide consent and the validity of the consent given by a patient with lack of insight or impaired judgment (Chaturvedi and Somashekar, 2009). Such patients may be challenged by the cognitive demands of an informed consent process for research participation. Researchers, however, have noted that in many mentally ill patients, the reduced capacity can be compensated by a more intensive educational intervention as part of the informed consent process (Carpenter, et al. 2000). Recent findings have shown that the clinical assessment of the patient's capacity to give consent may be informed and guided by sophisticated criteria or assessment instruments (Van Staden, 2009).

Conflict of interest:

An unacknowledged conflict can erode confidence and threaten the integrity of otherwise solid research. The author of a manuscript is expected to be objective in presenting his/her findings, and the editors and reviewers also have to be objective in evaluating them. When such people in positions of trust hold competing interests that can result in bias or improper decisions, the information reaching the scientific community and the general public could be distorted and potentially devastating. Psychiatrists conducting clinical trials are under an obligation to disclose their conflict of interest according to Madrid Declaration On Ethical Standards For Psychiatric Practice (WPA, 1996).

These ethical standards and/or other internationally recognised ethical codes, such as the Declaration of Helsinki, must be followed if you wanted to publish in a peer reviewed journal. Your work may have also to be approved by your institutional review board. Perhaps, you may not like these requirements, but you are not alone then. Many researchers have viewed these regulations as troublesome barriers which delay and suppress research (Hearnshaw, 2004 and Samanta and Samanta, 2005). However, drawing on sociologist Hughes, (1958) concepts of professional licence and professional mandate, and on contemporary sociological theory on risk regulation, Dixon Woods and Ashcroft, (2008) explained why researchers may resent regulation. Any attempt at control and scrutiny is bound to be resented by the community being regulated, especially if the community previously enjoyed relative autonomy. Dixon Woods and Ashcroft, (2008) have also asserted that researchers, in spite of their complaints, benefit from these regulations, in particular by the ways in which regulation provides the moral warrant and secures the so called 'Social licence' for research (Dixon Woods and Ashcroft, 2008). Without this social licence, which itself is dependent on maintaining a structure of regulation, people will not be willing to participate in research studies (Dixon Woods and Tarrant, 2009) and you will find yourself then obliged to collude in your own regulation to get participants for your research! Nevertheless, society is in need of the continuing expansion of psychiatric research to help relieve the suffering of the many individuals whom mental illness affects. Ethics for psychiatric research should parallel this expansion of psychiatric research to ensure that studies sufficiently address ethical considerations and thus foster the proper, delicate balance between progress and protection (Barry, 2009). It is, therefore, imperative that a publication should be of ethically acceptable standard. Methodology upon

which all research is based is dependent on careful documentation of measurements and truthful reporting of findings.

So, you may ask why does misconduct happen? You could reverse the question: Why would not it happen? It happens in all other human activities! One may also wonder why not enough time is allocated to educate young researchers on the ethics of scientific research?! When training is inadequate and good practice is not taught, some desperate individuals under the pressure for professional survival, that is, to publish or perish, are motivated to fabricate results and think, because the system works on trust, they can get away with it! Unfortunately, and tragically, this type of misconduct carries a severe penalty, whose punishment can last an entire professional lifetime. So, take my advice: avoid scientific misconducts even if you think they would help you make a fortune writing scientific papers! Journals do not pay you for your writing. To the contrary, they may require a financial contribution from authors to defray the costs of publication. Take my advice: avoid scientific misconducts even if the desire to publish is overriding and the threat of cutthroat competition is rising. No excuses. I am sure those who will not accept this advice will discover sooner or later that the maxim "Publish or perish" has become for them "Publish AND perish"!!

Corresponding Author
Prof. Mounir Fawzi
Professor of Psychiatry, faculty of Medicine, Zagazig University, Zagazig, Egypt
E-mail: mounir.fawzi40@gmail.com

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