

# How to Improve Visibility of Scientific Biomedical Sources

Asim Kurjak

Dubrovnik International University  
Dubrovnik, Croatia

Corresponding author: Acc. Prof. Asim Kurjak,  
MD, PhD. Dubrovnik International University  
(DIU), Dubrovnik, Croatia

doi: 10.5455/aim.2016.24.413-415

ACTA INFORM MED. 2016 DEC; 24(6): 413-415

Received: OCT 25, 2016 • Accepted: NOV 22,  
2016

## ABSTRACT

With the rapid development of information and communications technologies, industrial nations are transforming into societies in which knowledge is the most contested and valuable good. The increased speed at which we have to acquire new knowledge, insights, and abilities is forcing us to divide up learning into novel, shorter phases. The traditional choreography of learning with its long, rigid defined school, job, and university educational periods is already obsolete today. Self-organized, lifelong learning is becoming a must. Everyone knows that without the uncertainty of the new nothing new is possible. To try to prevent this in one way or another would be fatal for science, as well as for our society as a whole. Research means thinking ahead. Research means recognizing challenges and taking responsibility for the new. The freedom needed for this is now the international standard, to which we have to adapt. The question of the development of such standards for research can therefore not be posed frequently and persistently enough. We all know that creativity is biological privilege of young age and the best test for their scientific creativity is publication in respectable journals with a solid impact factor. Conferences like this one in Sarajevo in 2016 should be very stimulated for younger as well as more senior research workers.

Keywords: scientific work, visibility of scientific sources.

## 1. INTRODUCTION

Like art, science is a universal possession of humanity, one of its vital potentials. Yet, the scientist generating or transmitting new ideas has been and will remain the essence not only of scientific existence but also of the civilization of an environment. However, science alone does not answer the question of what to do with the knowledge it generates - it is not in itself a moral value. Rather, the human cultural values in their ethical, legal, philosophical and often religious dimensions are the tools which help determine how to use knowledge for good purposes (1-3).

What is the basis on which we can and must rethink values, society, individually, and maybe even our concept of the human being in era of globalized medicine?

One is research. The development of research partnerships between developing and industrialized countries will not only help to combat the global inequity of health but will also be of enormous mutual benefit for all.

With the rapid development of information and communications technologies, industrial nations are transforming into societies in which knowledge is the most contested and valuable good. The increased speed at which we have to acquire new knowledge, insights, and abilities is forcing us to divide up learning into novel, shorter phases. The traditional choreography of learning with its long, rigid defined school, job, and university educational periods is already obsolete today. Self-organized, lifelong learning is becoming a must.

Indeed, knowledge production is the decisive driver of fast development. The half-life of knowledge is sinking. A person's knowledge becomes a museum piece several times in his or her life. Today, young Americans have to expect that in 40 years of professional life they will change their job 11 times and in the process renew their level of knowledge three times. Changing jobs four times is not the new qualitative factor of this development. Even today, great professional flexibility is the rule

© 2016 Asim Kurjak

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

in the United States. In the future, however, even highly qualified people will have to move into new fields of activity if they are to be successful professionally. Gradual further development in fixed professional channels alone will no longer be sufficient. Teachers in Germany today who finish their studies at the age of 25 and start teaching at a school will have to renew their level of knowledge after ten years of professional life if they are to remain capable of teaching. At the age of 45, when they are 20 years away from retirement, their first course of study will comprise at most a quarter of the knowledge they need to teach successfully. And even today the knowledge in basic and application research doubles every five years (4).

How do we respond? Do globalization and the enormous acceleration of social, economic, and political transformation process demand a different kind of research?

Since time immemorial, science has been competing for the best minds and the best conditions for them to work in. While in the past the natural sciences primarily had a descriptive character, today they are becoming more and more synthetic and complex. Biology is a good example. Good research organizations or universities are measured today according to whether they are in a position to build up such structures.

In addition to scientific excellence, standards of research can and must be viewed under the aspect of ethical requirements. Which standards does a community set itself and feel must be upheld? This issue can relate to questions of human dignity, as in the current debate about whether embryonic stem cells should be used in research and the cloning discussing. It can relate to ideal values such as peace and humanity, as in the 20<sup>th</sup>-century debate about atomic and hydrogen bombs.

Everyone knows that without the uncertainty of the new nothing new is possible. To try to prevent this in one way or another would be fatal for science, as well as for our society as a whole. Research means thinking ahead. Research means recognizing challenges and taking responsibility for the new. The freedom needed for this is now the international standard, to which we have to adapt. The question of the development of such standards for research can therefore not be posed frequently and persistently enough.

## 2. WE SHOULD BE FUTURISTICALLY THINKING SCIENTISTS

However, we have to admit that we are components in an ongoing evolutionary process whose final point we cannot determine. That is the insight that we will err many times if we want to make progress. Therefore we need a new culture of tolerance for error, in which the error is seen as a constitutive part of acting. The person erring should not even have to apologize. He should regret it, but it can't be held against him. If he assumes responsibility and does something that turns out differently from what he thought, he has to be given mercy, because when attempting to steer these complex systems error is constitutive, unavoidable. Humility comes when one sees that this is what reality is and that one should not make pompous promises that can't be kept.

On account of great increases in knowledge about the molecular bases of pathogenesis and the course of illnesses, new therapeutic approaches will be found almost per-force.

Much more attention will be devoted to the subject of individual diagnostics and possibly personalized treatment, that is, treatments tailored to individual people, or better, a group of people with a similar clinical picture and a similar genetic background, with better results than we can imagine today. But whether society will be in a position and have the will to pay for these therapies, is an open question.

And this Niagara of information had to be organized and codified. Early attempts at such codification resulted in various religious beliefs, and only later did these beliefs give rise to science. As we know, astronomy eventually arose from astrology, chemistry from alchemy, and history from mythology.

## 3. SCIENTIFIC VISIBILITY OF QATAR

Scientific productivity is now measurable parameter (1-3). For purpose of this editorial we entered to PubMed to extract recent data on scientific visibility of Qatar. Qatar has a highest number of medical publication per capita in the region, and after Iran the fastest growth. Those data could be a strong motivation for all of us and a chance to make Qatar not only the country with fastest growing economy but also the most important medical and health centre, at least in this part of the world (Table 1). Although Qatar has a small population - comparison of Qatar and other Gulf countries with European cities with similar population show that fast growing economy is not automatically producing the knowledge based society. For that a good administration is necessary as well good future oriented organization which include good infrastructure (this is mostly the question of money), production of Qatar scientist which can be most efficiently achieved by organizing PhD program with increasing involvement of local experts, possibly starting one international journal etc. To increase scientific visibility of Qatar for at least 10 times in next 5-7 years we might consider as a plan which is reasonable and relatively modest. Comparisons with other Gulf state clearly shows that no one of them in last 7 years did not approach sufficient level of medical and health research growth to be comparable with middle size European centers.

Indeed, Qatar has a modest international scientific visibility (in PubMed 80 publications in last year), but fastest development in the region. Thus it is real challenge and calls for cooperation with other fast developing scientific communities. One of the solution might be introduction of PhD program which should be a good and fast development in international cooperation. Accordingly first attempts are made to take active part in shaping and harmonizing PhD programs in Europe. European type of PhD Program (as a so called "third cycle of Bologna process") is the best solution for a country which strives to develop its own scientific potential. We have just finished successfully the first Fellowship program on Ultrasound in Obstetrics and Gynecology attended by 17 doctors from Qatar and neighboring countries. After graduation most of them expressed willingness to continue with PhD course. However, PhD program is much more complicated then any other type of postgraduate education, because it is not only education but a research, too. Thus students are not only students in a classical way - but early stage researchers as well, not only acceptors but also creators of a new knowledge. Thus a good PhD program consists of (1) advanced, scien-

Country	2000	2007	increase	Population (000)	GDP per capita \$	Paper / 000 000 inhabitant
IRAN	307	2655	86,5 x	65,398	12,300	0.041
SAUDI ARABIA	846	842	-	27,601	20,700	0.031
PAKISTAN	211	683	3,2	164,742	2,600	0.004
KUWAIT	210	341	1,6	2,506	55,300	0.136
EMIRATES	138	192	1,3	4,444	55,200	0.043
OMAN	93	126	1,35	3,205	19,100	0.039
QATAR	14	80	5,7	907	75,900	0.088
BAHRAIN	33	61	1,8	709	34,700	0.086
YEMEN	24	25	-	22,231	2,400	0.001
IRAK	0	0	-	27,499	3,600	0.000

Table 1. Visibility of Qatar and neighbouring countries in Public Medline (PubMed, number of articles)

tific problem oriented teaching, (2) mentoring and (3) a high quality research. Because of that it is difficult to successfully copy PhD program from one country to another, and for a successful cooperation involvement of Qatar scientist is almost necessary. Of course this requires very careful planning and might be connected with a lot of administrative and legislative work. Obviously this needs a time but such programs are also meant to last for a long time and to be reservoir of future leaders of Qatar medicine and health sciences. And in a long run improving further scientific visibility of Qatar. Before starting such a challenging task we have to have full, detailed and realistic picture about Qatar science primarily in biomedicine and health sciences but in other sciences and high education institutions as well, including scientific and administrative infrastructure, policy making etc. Chinese said that the road of 1000 miles starts with the first step. Let's do the first step.

#### 4. INSTEAD OF CONCLUSION

Conference like SWEP 2016 - The First Mediterranean Seminar on Science Writing, Editing and Publishing, held in Sarajevo on December 2-3, 2016, organized by professor Izet Masic is a proper place for such an interchange (4). We all recognize the truth that knowledge is the best capital and that universal knowledge increases every day by scientific discoveries. We all know that creativity is biological privilege of young age and the best test for their scientific creativity is publication in respectable journals with a solid impact factor. Conferences like this one in Sarajevo in 2016 should be very stimulated for younger as well as more senior research

workers.

(many papers from Qatar are published in internationally less known journals like: *Medicina* (Kaunas), *Saudi Med J*, etc.)

For comparison European cities with similar population:

- Zagreb, Croatia (2007): 765
- Graz, Austria (2007): 744
- Firenze, Italy (2007): 318
- Trieste, Italy (2007): 386
- Goteborg, Sweden (2007): 1097
- Uppsala, Sweden (2007): 1514
- Strasbourg, France (2007): 748
- Lyon, France (2007): 1615
- Glasgow, UK (2007): 1519
- Liverpool, UK (2007): 1334
- Lisboa, Portugal (2007): 595.

#### REFERENCES

1. Kurjak A, Dudenhausen JW, Chervenak FA. Does globalization and change demand a different kind of perinatal research? *J Perinat Med*. 2008; 36: 273-5.
2. Kurjak A, Di Renzo GC, Stanojevic M. Globalization and perinatal medicine - how do we respond? *J Matern Fetal Neonatal Med*. 2010; 23(4): 286-96.
3. Kurjak A, Carrera JM. Declining fertility in developed world and high maternal mortality in developing countries - how do we respond? (Editorial). *J Perinat Med*. 2005; 33: 95-9.
4. Masic I. Medical publication and scientometrics. *J Res Med Sci* 2013; 18: 516-21.
5. Masic I, Donev D, Sinanovic O, Jakovljevic M, Zerem E, Milosevic D, Gajovic S, Gasparyan YA. et al. The First Mediterranean Seminar on Science Writing, Editing and Publishing. *Acta Inform Med*. 2016 Dec; 24(6): 421-30.