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The obstacles facing scientific and medical publishing in Saudi Arabia

Nasser Al-Sanea, Amal Al-Ghammas, Jeruly Pangan-Menor, Reina Vidad Tejano, Nada Al-Bassam, Jennifer Duero-Ebora, Janelle A. Vales

From the Publications Office, Academic and Training Affairs, King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia

Correspondence: Nasser Al-Sanea, MD · MBC 36 Publications Office, Academic and Training Affairs, King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia · T: 966-11-464722 loc 31826 · nsanea@kfshrc.edu.sa

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BACKGROUND AND OBJECTIVES: Medical and scientific publishing in Saudi Arabia has flourished in the last ten years. Such a form of publishing faces its own obstacles and the experience of the Annals of Saudi Medicine if analyzed can delineate such obstacles. The aim of this study is to identify the workflow obstacles facing the Annals of Saudi Medicine.

METHODS: Root-cause analysis of the workflow process and output from submission till publication for the period January 2012-December 2013. Key performance indicators were developed and analyzed after being extracted from the online submission system.

RESULTS: For the period of the study, 1058 manuscripts were received annually. These manuscripts originated in descending order from: Saudi Arabia 34%, Turkey 16%, India 12%, China 8% and Western Countries 3%. Categories of the submissions were: original articles 53%, case reports 31% and others 16%. Only 103 of the submissions were accepted annually for publication. Out of 7,709 requests to review a manuscript, only 1,579 (20%) resulted in a review. Out of a sample of 744 rated reviews, only 10% were poor in quality. The average turnaround time for review was 79 days. The main reason for the delay was the low response of the reviewers.

CONCLUSION: The Annals of Saudi Medicine is a regional or continental journal with substantial submissions as case reports. This affected its Impact Factor and Hirsch Index. Moreover, the review process is delayed due to the poor response of the reviewers.

Scientific publishing has witnessed a major increase in terms of quantity and quality in Saudi Arabia over the past 30 years. The number of open access scientific and medical journals established has increased exponentially, but such a plethora of journals is faced with a set of obstacles that need to be addressed by the scientific and governmental bodies in the country. A huge investment in creating a scientific environment conducive to high impact scientific research has been championed by King Abdulaziz City for Science & Technology and the Saudi Universities. However, an important step in scientific research has not been addressed through a well established national strategy or policy, namely, scientific publication in peer-reviewed and indexed Saudi journals.

It is hoped that through the portrayal of the experience of the Annals of Saudi Medicine and the obstacles it faced, one can draw conclusions for the future. Such conclusions will help formulate a national strategy and garner robust support to help scientific journals in Saudi Arabia reach higher levels of citation and impact on the scientific community.

METHODS

The submission database of the Annals of Saudi Medicine including ScholarOne™ was researched for categories of manuscripts published, country of origin, citation, self-citation, peer review cycle indicators, performance indicators, quality of submissions, rate of rejection and credentials of the publication office. The period of the study was from January 2012 till December 2013. The methodology used to infer from the data is the root-cause analysis methodology.1

RESULTS

Manuscript statistics

For the period of the study, 2115 manuscripts were
received, 205 (9.7%) were accepted for publication, 1825 (86.3%) were rejected and 85 (4.0%) received a no commitment decision. The average annual rate of submission was 1058 manuscripts. The countries of origin of the manuscripts is shown in Figure 1. The categories of the submitted manuscripts is shown in Figure 2.

**Quality of submitted manuscripts**
The citation of published articles is shown in Figure 3. The citation per document is shown over a period of 15 years in Figure 4. The Hirsch Index ($h$-index) for the Annals was 23 for the year 2013.

**Performance of the journal**
The Thomson Reuters Impact Factor of the Annals of Saudi Medicine is shown over a period of 14 years in Figure 5. The average turnaround time from completion of submission to finalization of a decision was 79 days. The rank of the Annals among the other medical journals published in Saudi Arabia is shown in Table 1. The rank of the Annals among the other medical journals in the Middle East is shown in Table 2.

**Performance of the administrative staff**
The turnaround time from completion of submission to an assignment to an editor was 3 business days. Around 40% of submissions were incomplete or do not meet the standards of submission by the Annals of Saudi Medicine.

**Editorial performance**
The tenure of the Editors-in-Chief was 4 years for the last 3 Editors-in-Chief. The Editorial Board has 21 members. The average turnaround time from assignment by the administrative staff to an Editor to the start of the peer review process was 21 days.

**Performance of the reviewers**
The Annals had a database of 7,709 reviewers enlisted. Out of all invitations for review made in the study period, only 1,579 (20%) responded with an agreement to review a manuscript. The turnaround time for the peer-review process was 55 days. Among a sample of 744 rated reviews, only 10% were poor in quality.

**DISCUSSION**
The Annals of Saudi Medicine is probably among the few to report on its experience with the publication of medical and scientific research. It is hoped that such an initiative would prompt many other scientific and medical journals to follow suit. This will ultimately mobilize the efforts to improve scientific and medical publishing in Saudi Arabia in order to bring it to a new level.

**Statistics and quality of submissions**
The Annals of Saudi Medicine, compared to its peers published in Saudi Arabia, is still among the top 5 $h$-indexed medical journals published. However, it is not among the top 5 medical journals published in the Middle East, Table 2. The citation per document was 0.99 for 2013. The Saudi Medical Journal had 0.66
Figure 3. The majority of published material was unindexable, although decreasing, over the period: 1996 to 2012. (Courtesy of The Scimago Journal & Country Rank, Scimago Lab, Copyright 2007).

Figure 4. The citations per document increased over the period 1999-2012, but dropped in 2013. (Courtesy of The Scimago Journal & Country Rank, Scimago Lab, Copyright 2007).

Figure 5. Impact Factor of the Annals of Saudi Medicine over a period of 14 years.

Table 1. The top \( h \)-indexed medical journals in Saudi Arabia. The majority have an \( h \)-index below 10.

| Journal                                      | Rank | \( H \)-Index |
|----------------------------------------------|------|---------------|
| Saudi Medical Journal                        | 1    | 30            |
| Annals of Saudi Medicine                     | 2    | 23            |
| Saudi Journal of Kidney Diseases and Transplantation | 3    | 14            |
| Saudi Pharmaceutical Journal                 | 4    | 14            |
| Saudi Journal of Gastroenterology            | 5    | 12            |
| Saudi Journal of Biological Sciences         | 6    | 8             |
| Neurosciences                                | 7    | 7             |
| Hematology/Oncology and Stem Cell Therapy    | 8    | 7             |
| Saudi Journal of Anesthesia                  | 9    | 5             |
| Saudi Dental Journal                         | 10   | 4             |
| Saudi Journal of Ophthalmology              | 11   | 4             |
| Journal of The Saudi Heart Association       | 12   | 2             |
| Journal of Taibah University Medical Sciences| 13   | 2             |

(Courtesy of The Scimago Journal & Country Rank, Scimago Lab, Copyright 2007).

Table 2. The top 10 ranked medical journals in the Middle East.

| Journal                                      | Rank | \( H \)-Index |
|----------------------------------------------|------|---------------|
| Israel Medical Association Journal           | 1    | 38            |
| Saudi Medical Journal                        | 2    | 30            |
| Journal of Sports Science and Medicine        | 3    | 28            |
| Archives of Iranian Medicine                 | 4    | 25            |
| Turkish Journal of Pediatrics                | 5    | 25            |
| Pediatric Endocrinology Review               | 6    | 25            |
| Annals of Saudi Medicine                     | 7    | 23            |
| Diagnostic and Interventional Radiology      | 8    | 22            |
| Israel Journal of Psychiatry and Related Sciences | 9    | 22            |
| Turkish Journal of Gastroenterology          | 10   | 18            |

(Courtesy of The Scimago Journal & Country Rank, Scimago Lab, Copyright 2007).
Obstacles to scientific journalism
Most of the journals are established by universities, societies or hospitals, but they usually do not have dedicated staff on their payroll other than the administrative staff. The majority of the Saudi journals do not employ dedicated scientific or editorial staff and there is in fact no job description created under the Civil Service with the title of "Scientific Editor". The financial budgets dedicated to most of these journals do not allow recruitment for jobs in scientific journalism or scientific editorialship; moreover most of these journals do not have dedicated budgets from the Ministry of Finance. This makes the finances and the administrative governance of such journals less robust. The worst to suffer from this, are the journals of the societies who have no financial revenues to carry out their basic tasks in the process of scientific discovery. This is clearly demonstrated when we know that most of the journals of the Saudi societies are not indexed.

Obstacles to the review process
The striking finding is that only 20% of the invitations are answered with a review. This is the main obstacle to shortening the review process. It takes around 55 days to finalize a review while the standard internationally is around 14-30 days. The obstacle is compounded in Saudi Arabia where there is a limited community of reviewers to choose from. The reviewers probably feel less interested to review due to the fact that good reviewers tend to receive more assignments while the "not good" reviewers receive less assignments. The end result is that good reviewers are swamped with review requests. This ultimately, pushes the good reviewers into exhaustion and consequently they are forced to reject any further reviews. Moreover, the reviewers according to the Saudi
Commission for Health Specialties can be awarded 1 CME per review, but none of the Saudi medical journals award their reviewers those hours because it is done through a complicated manual process while most journals use online submission systems and cannot track those reviewers with ease on a manual basis, nor do they have the staff to carry out such a process if you consider the huge number of reviewers utilized on an annual basis.

Lack of national strategy
Tite and Schroter have pointed out that the lack of time is the most important factor leading to rejection of an invitation to review a manuscript. Moreover, they called upon the academic bodies to recognize the efforts of the reviewers.2

Scientific and medical journalism in Saudi Arabia does not have a well laid foundation in terms of vision, mission, and objectives. It lacks a supportive structure at the national level. The King Abdulaziz City for Science and Technology has launched many projects to help support scientific publishing like access to scientific libraries. However, there is a need to develop a national program with dedicated resources to help the Saudi scientific journals move to a higher level under one umbrella with unified standards and robust digital publication services. Moreover, there should be an investment into training digital scientific graphic designers and medical illustrators which most medical and scientific journals lack in Saudi Arabia. This requires creation of academic programs in medical and scientific illustration at the universities.

In conclusion, the Annals of Saudi Medicine is a regional or continental journal and not a national journal like its name implies. The lack of motivated reviewers delay its peer-review process. The huge number of non-citable manuscripts published affected its impact factor negatively.

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