

## An Introduction To Contemporary Academic Medical Leadership

Aamir Jalal Al-Mosawi<sup>1</sup>

<sup>1</sup>Advisor in Pediatrics and Pediatric Psychiatry and expert trainer  
The National Training and Development Center and Baghdad Medical City

### Abstract

In contemporary medicine, superior medical practices and higher quality medical services have been increasingly linked with academic medical practices. The more academic the physician, the more likely to be described as adhering to the scientific medical practices. There has been an overwhelming demand to improve medical practices and services through using evidence-based medicine, and leadership has been increasingly recognized as an important contributory factor to the success of academic medical organizations and institutions and healthcare organizations. Therefore, there has been an increasing interest in the practices of medical leadership and academic medical leadership, and also in identifying the qualities of the genuine medical leaders and academic medical leaders. The aim of this paper is to provide an overview of the important concepts and practices of contemporary academic medical leadership.

**Key Words:** Academic medical leadership, concepts, practices.

### Introduction

In contemporary medicine, superior medical practices and higher quality medical services have been increasingly linked with academic medical practices. The more academic the physician, the more likely to be described as adhering to the scientific medical practices.

There has been an overwhelming demand to improve medical practices and services through using evidence-based medicine, and leadership has been increasingly recognized as an important contributory factor to the success of academic medical and healthcare organizations and institutions. Therefore, there has been an increasing interest in the practices of medical leadership and academic medical leadership, and also in identifying the qualities of the genuine medical and academic medical leaders [1-5].

Leadership is the ability to give guidance that produces change to the better through introducing innovations. Leadership gives the necessary guidance that produces change and innovations largely through establishing direction, setting vision and strategies (Figure-1). That is why all organizations need leadership and have to identify their leaders, the people capable of giving guidance [6, 7, 8, 9].

Medical leadership is also called leadership in

medicine, physician leadership, and clinical medical leadership. Medical leadership and healthcare leadership are not identical; and have difference practices.



**Figure-1: Understanding the concept of leadership**

Medical leaders are also called innovators and leaders in medicine, but they can not be called talented managers, because the concepts of leadership and management are not the same and they have different practices. The ultimate goal of medical leadership is to make improvement in medical practice through introduction of innovations [10-15].

Academic medical leadership used to be more related to teaching at medical institutions and medical schools during the twentieth century.

However, it has become more related to medical research during the previous two decades. Academic medical leadership or academic leadership in medicine is the leadership in an academic medical institution, organization or setting including teaching hospitals. It has emerged as a distinctive variation of leadership and medical leadership in general. Academic leadership is the superior ability, competence and function in higher education institutions organizations, and settings. Therefore, Academic medical leadership involves the superior ability, competence and function in institutions, organizations, and settings linked with higher medical education including colleges of medicine, teaching and university hospitals' clinical departments, specializations and sub-specialization boards, peer-reviewed medical journals, and medical training centers [4,5,12,13,14,15].

### **The origin of medical leadership concept**

Many experts believed that the available medical knowledge is too rarely applied to improve the health care experience, and the information generated by the care experience is too rarely gathered to improve the knowledge available. The experts were not addressing a problem in a country like Iraq; they were talking about developed countries. They emphasized that advances in medical and health knowledge were not associated with equivalent advances in medical practices. The traditional healthcare management systems which are supposed to be responsible for the transfer of new medical knowledge into healthcare organizations were considered to be failing even in developed countries. Medical leadership originated when healthcare systems didn't meet expectation and were considered to be unsatisfactory. Failure of the transfer of new medical knowledge into healthcare organizations was thought to be responsible for that. If there is no new knowledge that may contribute to improving medical practices and the healthcare, no advances in medical knowledge, there will be no problem.

However, the problem is there because there is an explosion in medical knowledge, but this knowledge are not properly used or introduced to medical practice and healthcare. Most experts agreed that healthcare managers in a country like the USA were highly qualified, experienced and doing their jobs correctly.

Despite that, there was constant failure in introducing new knowledge, advances, and innovations into the practice of healthcare organizations. Many experts were convinced that the healthcare system and many healthcare institutions are over-managed or at least well managed, but under-led, and leadership by medical leaders was believed to be necessary.

Warren Bennis (Figure-2) stated "Failing organisations are over managed and under-led". That means, there is no real source of guidance which helps the organization to use the continuously emerging knowledge to change to the better and advancing by introducing innovations.

Warren Bennis stated "Organisations decline because people forget what is important". That means, organizations forget what is important because there is no real source of knowledge.



**Figure-2: Warren Bennis, a leadership expert**

The perception of the lack of medical leadership led to the emergence of the original concept of medical leadership. Emphasis was made that highly qualified managers can't lead healthcare systems, and they need true medical leaders.

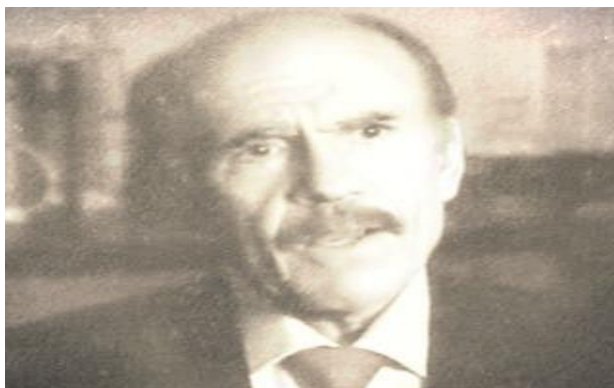
Studies of healthcare management in the USA recognized that individual physicians, and other healthcare professionals involved in patient care worked diligently to provide high-quality, compassionate care to their patients. The problem was not that they were not working hard enough and needed a more rigorous managerial systems, the problem was not that they didn't have adequate knowledge about the advances and innovations made at research centers and universities, or they couldn't learn about it. The problem was that the management system didn't adequately support healthcare

professionals to introduce the advances and the innovations they know or learn into their practice and work.

The management system was not efficient in adjusting to new discoveries, disseminating data in real time, organizing and coordinating the enormous volume of research and recommendations, and providing incentives for choosing the smartest route to health, not just the newest, and often most expensive tool. The lack of medical leadership prevented clinicians from providing the best care to their patients and limit their ability to continuously learn and improve [16, 17, 18, 19].

### Understanding medical leadership and academic medical leadership

Dr Luis Ignaro (Figure-3) shared Nobel Prize in medicine with two of his colleagues for his research on the role of nitric oxide in the reduction of cardiac diseases. Dr Luis used the new information he discovered with his colleagues in the prevention of cardiovascular heart diseases. His work represented a breakthrough in heart disease prevention. Medical leadership is not all about making scientific discoveries, but it is all about introducing discoveries and innovations into healthcare and practice.



**Figure-3: Dr Luis Ignaro**

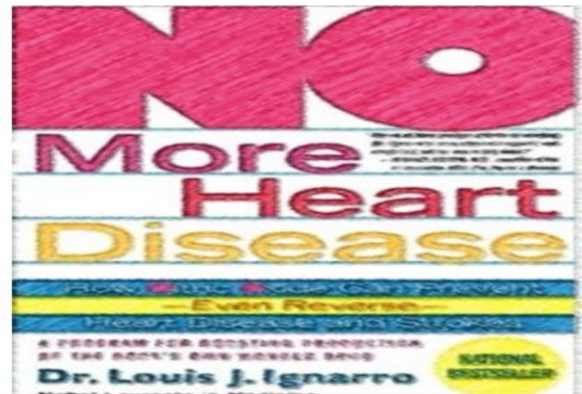
The scientific discoveries and research of Dr Luis Ignaro made him an academic medical leader, but his ability and work to transfer new knowledge and discoveries into healthcare, into his practice made him medical leader [20, 21, 22, 23].

### Innovation: A role of academic medical leaders and medical leaders

Academic medical leaders need to explore first what to innovate, not how to innovate. Cardiovascular diseases were the cause of 17.5 million deaths in 2012 that is 3 in every 10

deaths. Therefore, Dr Luis Ignaro thought that the approach to the problem of cardiovascular diseases needed innovation?

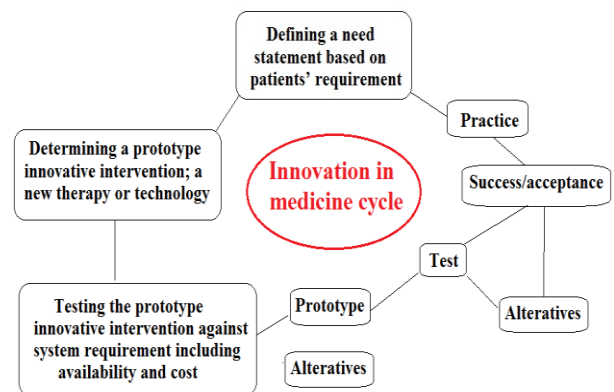
Leadership gives the necessary guidance that produces change and innovations largely through establishing direction, and setting vision The vision of Dr vision Ignaro who represents a classical model of medical leadership and academic medical leadership was expressed by the title of one of his books "No more heart disease" (Figure-4).



**Figure-4**

Medical leadership is all about introducing discoveries, advancement and innovations into healthcare and medical practice. Innovations in medicine cycle involves (Figure-5):

- A-Defining a need statement based on patients' requirement.
- B-Determining a prototype innovative intervention like a new therapy or technology.
- C-Testing a prototype innovative intervention against system requirement.
- D-An internet search may be necessary to select an innovative intervention.



**Figure-5: Innovations in medicine cycle involves**

Introducing innovations in the clinical practice of medicine can be facilitated a superior

medical knowledge, professional experience, the skills of the practicing evidence base medicine, and also by the presence of a mentor.

When it comes to introducing innovations and updating medical practices, emphasis should be made on the importance of searching the available evidence to support updated medical practice. Developing an evidence-based approach to the practice of medicine is a key component of medical leadership as the practice of evidence-based medicine is the most important method of improving medical practices, updating them and introducing innovations.

It is generally recommended that general practitioners, family doctors, and recently board certified physicians have to use the best high level evidence (The strongest evidence) which includes evidence from a meta-analysis or systematic review of randomized controlled trials. This is because updating and innovating medical practices and patient care should, ideally be based on strong evidence, but this is not always possible, and there is no best evidence to deal with many of the medical problems that have no known effective or satisfactory treatment [24,25,26,27]..

More expert doctors including expert consultants and advisor doctors can use less strong evidence from published research including evidence from controlled and uncontrolled trials, even the evidence available from published case reports.

An adequate updated medical knowledge is one of the key attributes of medical leaders which can help them to set a realistic vision to help in: Creating new approaches and open up-issues.

Altering expectations and establishing new and specific hopes [24, 5, 26, 27].

Figure-6 shows the impact of adequate updated medical knowledge.

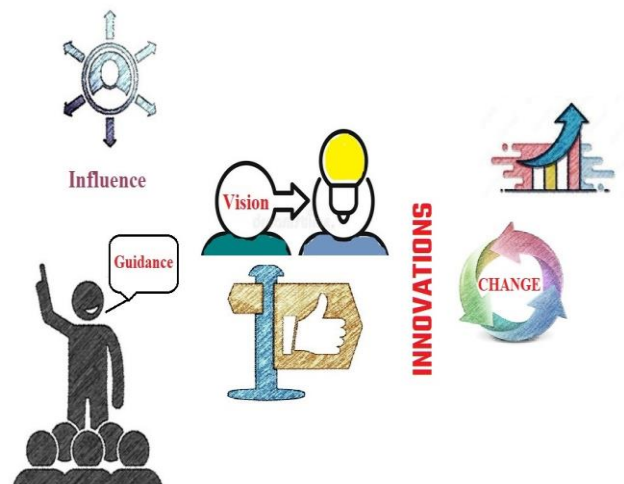


**Figure-6: The impact of adequate updated medical knowledge**

The influence of academic medical leadership

and medical is achieved largely through (Figure-7):

Giving guidance which helps in setting vision that helps in establishing direction, and strategies which contribute to change and innovations [4].



**Figure-7: The influence of academic medical leadership and medical leadership**

**Academic medical leadership components (Figure-8):**

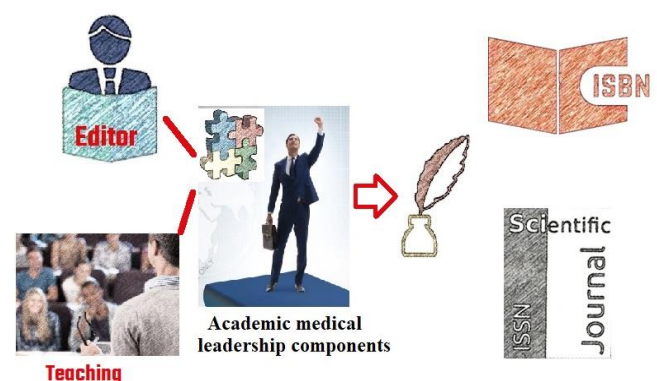
**The main academic activities that contribute to academic progress and academic medical leadership include:**

**1-Academic publishing which includes:**

- A-Journal articles especially research articles followed by case studies and review articles.
- B-Books and book chapters.
- C-Conference abstracts.

**2-Teaching** by lecturing and conducting training courses and presentations.

**3-Medical editorship** through membership of medical journal editorial board [4].



**Figure-8: Academic medical leadership components**

**Academic medical publishing** which is also called scholarly publishing essentially aims at

dissemination of academic medical research and scientific medical knowledge. The main forms of academic publishing include journal papers, books, and published conference abstracts.

The main important characteristic that distinguishes academic publishing from general or trade publishing is ensuring accuracy of the materials through review by experts in the field. Ideally, academic publication should have the merit of advancing the field of the study through adding new valuable content to the available scientific literature.

The necessity of avoiding plagiarism in academic medical publishing has been increasingly emphasized. Plagiarism is including text from an other author's publication in own publication by copying text without giving the necessary credit. Using ideas and concepts in own academic work without acknowledging the source is possibly an other form of plagiarism. Even when you are including the source of your text in the reference section, academic plagiarism has been increasingly recognized as copying more than three successive words (not including as "a", "the", "but", "in", "an", "and").

Marcus Valerius Martialis (Figure-9) a Roman poet commonly called Martial in English literature, described Fidentinus , another poet as "plagiarus" which means a kidnapper because he was reciting his poems and taking credit without giving him a fee.



**Figure-9: Marcus Valerius Martialis, a Roman poet commonly called Martial in English literature**

In 1601, Benjamin Jonson (Figure-10), an English poet and writer described stealing literary work as "Plagiary" [4].



**Figure-10: Benjamin Jonson (June 1572- August 1637)**

### **Book authorship and academic medical leadership**

Nicky Hayes (Figure-11) and Robert J. Sternberg (Figure-12) have recently emphasized that academic book authorship is a scholar endeavor demanding extensive knowledge in the field of the author and also outside the field of the practice of the author.



**Figure-11: Nicky Hayes, an educator in psychology**



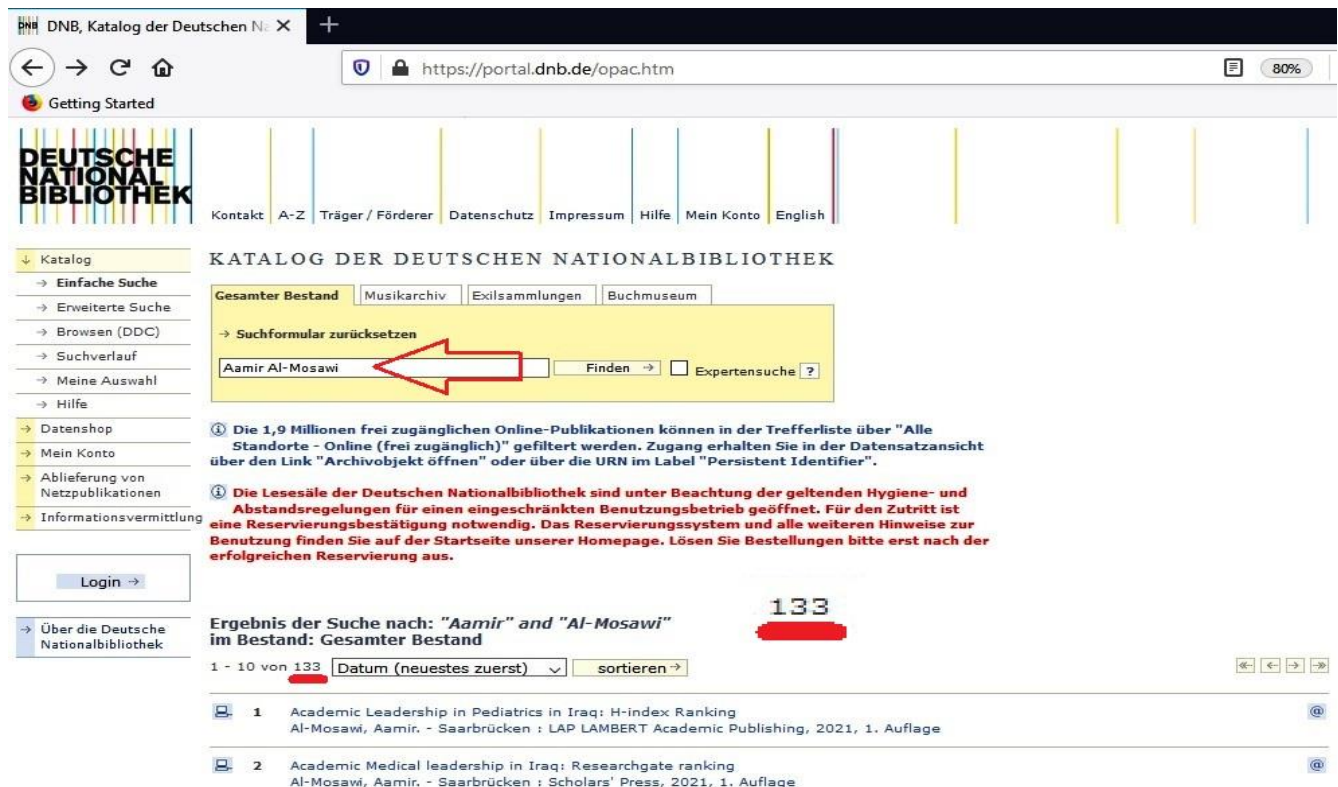
**Figure-12: Robert J. Sternberg, professor of Human Development at Cornell University**

They also emphasized that academic book authorship is a special form of teaching that actually targeting thousands of readers including students that can not be taught at a personal level. They suggested that academic books help people with their studies, and can possibly transform their understanding, and inspire them.

Nicky Hayes and Robert J. Sternberg suggested that only deep understanding in the themes of the authored book can enable the author to summarize the covered knowledge in an informative way. According to them as early as the 1960s and 1970s, academic book authorship was valued by many universities and regarded

as an evidence of academic excellence. Therefore, academic book authorship can contribute significantly to academic medical leadership.

When it comes to international book authorship in the field of medicine, the German National Library (Deutsche Nationalbibliothek) has the unique advantage of including scientific and academic books in English, German and other languages including Arabic, and the inclusion of a book this library gives an additional credit to book authorship when it comes to academic medical leadership assessment. An academic author can be searched online for the books included in the library (Figure-13).



**Figure-13: An academic author can be searched online for the books included in the library**

The inclusion of a book in Bookauthority's lists of best books of all time gives an additional credit to book authorship when it comes to academic medical leadership assessment. Bookauthority is the most important book recommendations site that provides recommendations by experts and intellectuals in various fields. Bookauthority identifies and rates the best books using a variety of methodologies. They feature only the very best books (Figure-14) [28-32].

### **Published conference abstracts and academic medical leadership**

Published conference abstracts of eminent conference papers have been increasingly

considered to be possibly associated with important contribution to academic medical leadership.

### **Eminent conferences' papers are defined as:**

- 1-Papers which have abstract published in at least two PubMed journals.
- 2-Papers which have abstract published in one PubMed journal, and the full-length paper published in a well-indexed journals.
- 3-Papers which have abstract published in one PubMed journal, and the full-length paper published as a book chapter or in a book chapter.
- 4-Papers which have abstract published in a

conference book available online, and the full-length paper published in a Scopus journal or as

a book chapter or in a book chapter [33-38].

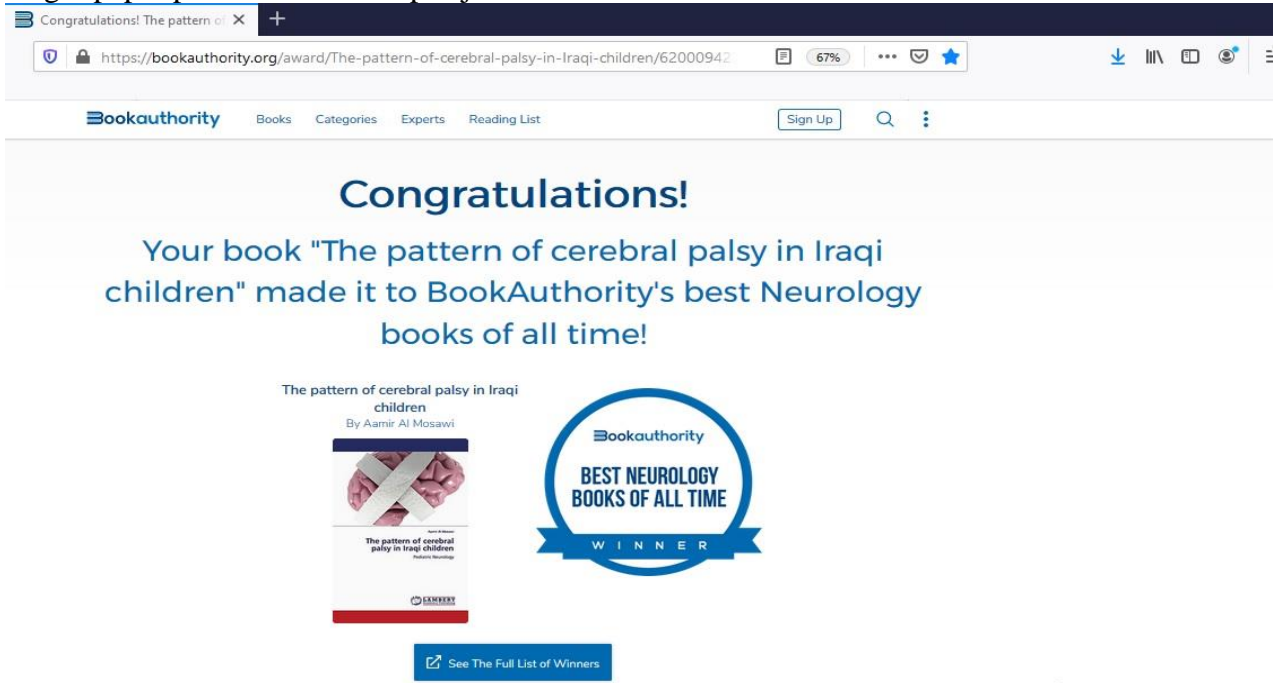


Figure-14A: Bookauthority identifies and rates the best books using a variety of methodologies. They feature only the very best books

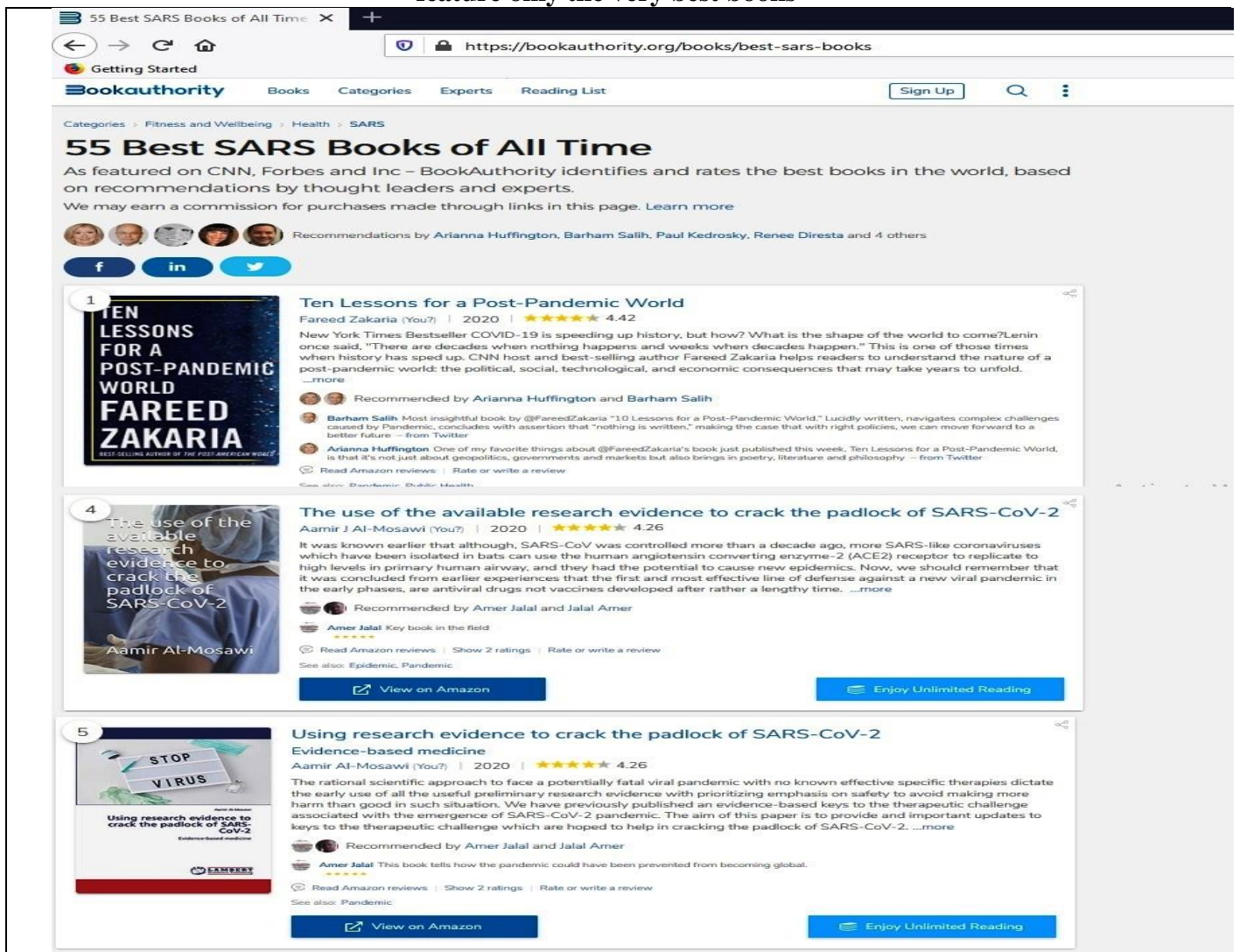


Figure-14B: Bookauthority identifies and rates the best books using a variety of methodologies. They feature only the very best books

## Medical editorship and academic medical leadership

Adam Chapnick (Figure-15) and Kim Richard Nossal (Figure-16) emphasized that medical editorship through academic journal editorship and editorial board membership for academic journals has been increasingly considered a measure of the respect and recognition for the academics because it enables them to contribute to the emergence and evolution of important publications.



**Figure-15: Adam Chapnick, a Canadian academic and expert. He edited International Journal from 2013 to 2015**



**Figure-16: Kim Richard Nossal, a Canadian academic and expert. He served as editor of International Journal from 1992 to 1997**

Board members commonly serve as a source of information, expertise for editors. They also emphasized that journals' editors and some editorial boards especially in the medical sciences, are powerful academics that can make policy, and assume part of the public personality of the journal they serve.

Arthur G. Bedeian (Figure-17), David D. Van Fleet (Figure-18), and Hugh H. Hyman III emphasized that editorial board members are

not just determining which academics and scholars have to be approved for their achievement, but they also influence how the scientific papers and achievements are published through their guidelines and recommendations [39-44].



**Figure-17: Arthur G. Bedeian from Louisiana State University**



**Figure-18: David D. Van Fleet from Arizona State University**

## Academic medical leadership assessment

Academic medical leadership is a difficult concept and its assessment is rather complex, but it is primarily performed through assessment of the productivity and scientific value of the main components of academic medical leadership. It is easier to quantitatively assess the academic productivity of an academic physician by counting the number of academic publications including journal articles, books, and conference abstracts. However, the assessment of the academic value of the publications and other academic achievements is more complex.

Academic publications is generally considered the most common and most important



contributor to a physician's academic productivity, and thus to a physician's academic leadership. The simplest way of assessing academic publication is quantitative counting which can not recognize the scientific importance and scientific strength of academic publications.

Currently, the three most commonly used tools for academic medical leadership assessment (Figure-19) are:

- 1-Google Scholar Citation's H-index
- 2-Scientific reputation (RG) score at researchgate.
- 3-Percentile ranking of academia.edu.

However, early during April 2022, researchgate announced that they will be no longer counting the RG score of academics from July, 2022, and they will be using other tools for academic leadership assessment and ranking [4, 45-50].



**Figure-19: The three most commonly used tools for academic medical leadership assessment**

**The H-index as a tool of academic medical leadership assessment**

The H-index calculated by the citation analysis productivity, and this measure is performed mostly through citation analysis of the published journal articles. Google Scholar

citation is the most commonly used tool for citation analysis, and for an academic physician can searched online for citation analysis and H-index (Figure-20). tool of Google Scholar is one of the most important tools for the assessment of a physician's academic leadership through measuring the influence of their academic



**Figure-20: An academic physician can searched online for citation analysis and H-index**

[[https://scholar.google.com/citations?view\\_o](https://scholar.google.com/citations?view_o...) p=search\_authors]

Google Scholar was founded by Alex Verstak (Figure-21).and Anurag Acharya (Figure-22).with the aim of helping in identifying scientific knowledge easier and more efficiently through making the finding of academic (scholarly) articles easier and faster and also by improving the ranking of academic (scholarly) publications and documents in web search.

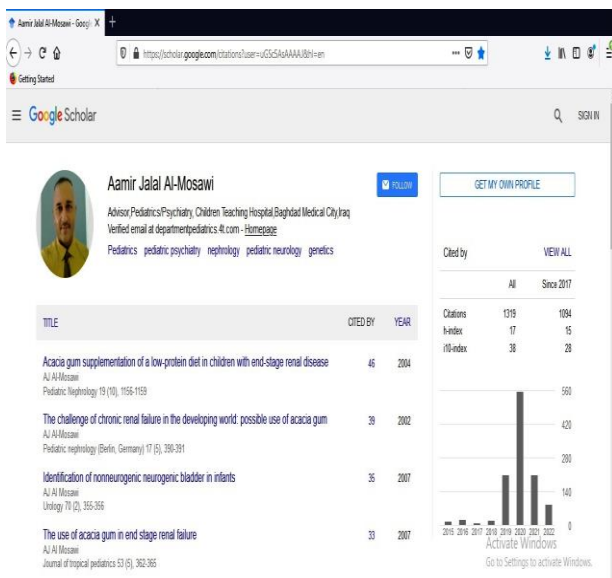


**Figure-21: Alex Verstak**



**Figure-22: Anurag Acharya**

Google Scholar was released in November 2004 and included a searchable index with the full text or metadata of academic (Scholarly) publications. The Google Scholar index includes most peer-reviewed academic journals, books, conference papers, conference abstracts, and other academic literature. In 2006, a citation analysis which included the H-index was added to Google Scholar, and Google Scholar H-index has gradually become the most important academic medical assessment tool despite there were earlier academic citation analysis tools included in Citeseer, Scopus, and Web of Science. These sites included much less academic papers than Google Scholar. Google Scholar citation analysis shows the total citation of a particular academic and H-index and i10-H-index (Figure-23).



**Figure-23: Google Scholar citation analysis shows the total citation of a particular academic and H-index and i10-H-index.**

The pioneering work of Jorge Eduardo Hirsch (Figure-24), an Argentine American professor of physics suggested that the scientific output of an author (The number of published papers) does not account much for the quality of

scientific publications. He introduced the h-index in 2005.



**Figure-24: Jorge Eduardo Hirsch, an Argentine American professor of physics**

The h-index is the number of papers that have been cited by other papers at least at the same number of times. An academic doctor's h-index of 10 means that he/she has at least 10 papers, each of the, were cited by at least 10 other papers [4, 51, 52, 53].

However, emphasis has been increasingly made that disregarding the authorship role and the order of an individual researcher in the publications can lead to rather a misleading H-index that is entirely not relevant to academic leadership determination including medical leadership.

The publishing of research conducted by a large collaborative research group made many collaborators with minor role in the research creation, development and leadership obtain a high misleading H-index that is not correlated with their academic and research prowess. The use of methods that increase the reliability of the H-index has been increasingly recommended. The use of a corrected H-index calculated from the papers that are really authored by an individual author who should be among the first three authors has been increasingly recommended [4, 54-59].

The H-index dose not accurately measure the scientific strength of a paper and dose not measure the interest of the scientific community in the researcher work. Papers documenting the occurrence of a very rare or novel conditions or associations will not get a number of citations that is correlated with their scientific strength because of the rarity of the description being published. Therefore, Researchgate scientific

reputation (RG) score has emerged as the single most important tool for the evaluation of academic medical leadership. Researchgate also gives insights into the physician's academic communications.

Researchgate as a professional academic assessment tool was developed by a German virologist of Arab origin, Ijad Madisch (Figure-25) in 2008.



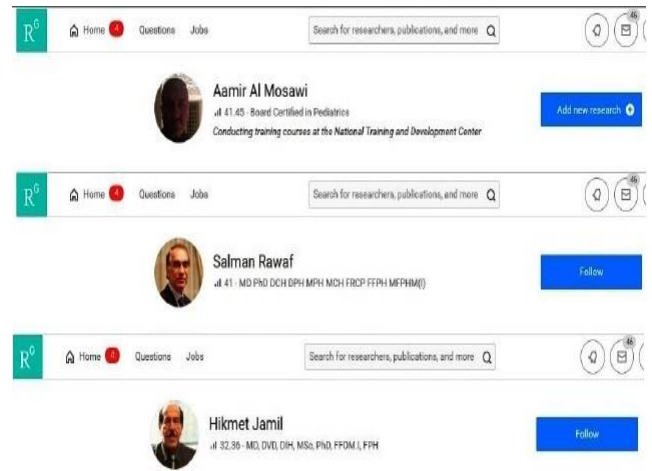
**Figure-25: Ijad Madisch, a German virologist of Arab origin**

Ranking of academics in Researchgate is based mostly on the final scientific reputation (RG) Score for each academic researcher which is measured based on:

- 1-The academic output: The number of publications.
- 2-The impact of the researcher through the cumulative impact factors publications.
- 3-Measuring other impact indicators including the number of the downloads of full-text articles, and the views of the meta-data of articles.

**It is important to stress that early during April 2022, researchgate announced that they will be no longer counting the RG score of academics from July, 2022, and they will be using other tools for academic leadership assessment and ranking [4, 54-59].**

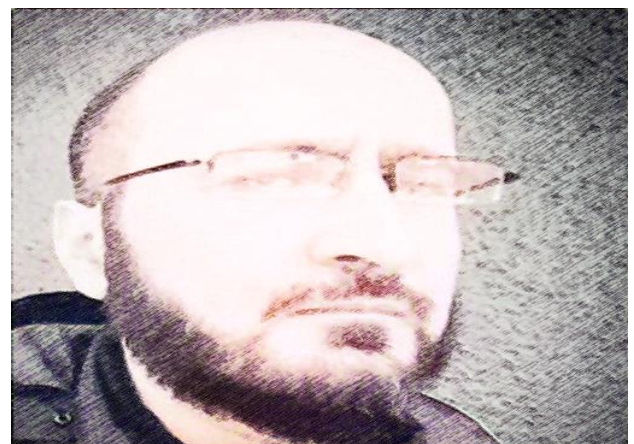
Figure-26 shows Researchgate ranking of top Iraqi physicians from Iraq, United Kingdom, and United State of America on the 21 February, 2022.



**Figure-26: Researchgate ranking of top Iraqi physicians from Iraq, United Kingdom, and United State of America on the 21 February, 2022**

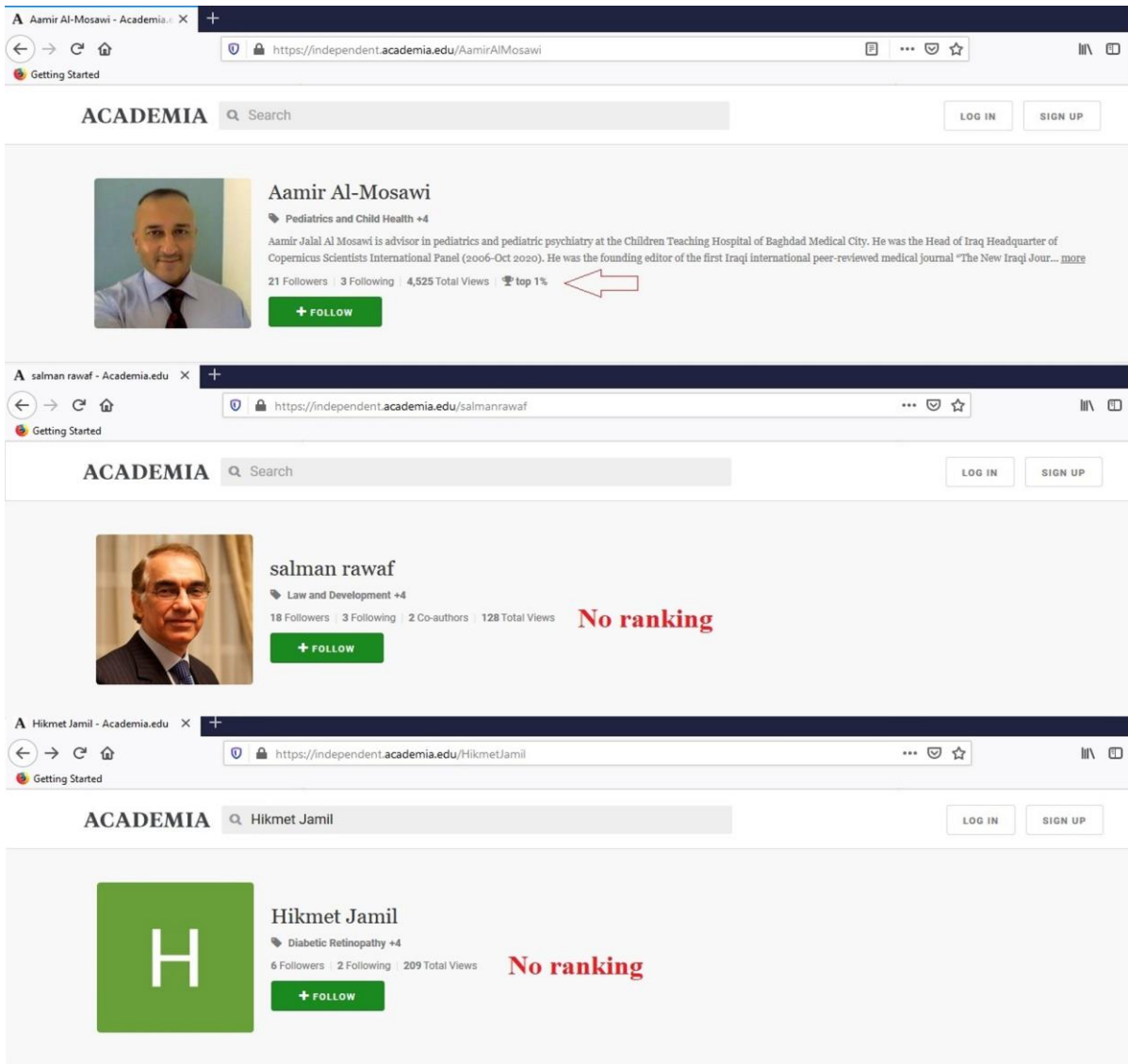
Academia.edu academic assessment tool shows mostly an academic ranking in the form of percentiles (e.g. top 1%, top 2%). A percentile ranking is more likely to appear on the profiles of academics having a large number of publications that have been viewed by a large number of other academics.

In 2016, Yuri Niyazov (Figure-27) and his research team examined the citations of 31,216 papers, and found that a paper in a median impact factor journal included in Academia.edu received 16% more citations after one year than a similar article not available online, 51% more citations after three years, and 69% after five years. They also found that papers posted to Academia.edu had 58% more citations than papers only posted to other online venues, after five years [4].



**Figure-27: Yuri Niyazov**

Figure-28 shows Academia.edu ranking of top Iraqi physicians from Iraq, United Kingdom, and United State of America on the 21 April, 2022.



**Figure-28: Academia.edu ranking of top Iraqi physicians from Iraq, United Kingdom, and United State of America on the 21 April, 2022**

**Other academic profiles sites**

There are many other academic profiles sites. The main value of academic profiles sites for academic physicians is enabling them to share their academic work and possibly influencing other academic, and thus enhancing their leadership in their fields. Therefore, academic profiles should include a biography plus a list of all the academic productivity of the academic throughout his/her career in various institutions. In addition, academic profile sites allow academic physicians to follow the work of other academics.

ORCID (Open Researcher and Contributor ID) is an academic profile account that is linked with a research ID which is a unique 16 digits number. John Bond (Figure-29), an expert academic suggested that the ORCUD ID is like an ISBN or DOI for the academics.



### Figure-29: John Bond, an expert academic

An ORCID profile does not show an H-index, RG score, nor a percentile ranking, but when it comes to academic medical leadership assessment, ORCID has the advantage of showing the important indexations and sources (Figure-30) that are considered to increase the academic value of the academic productivity of a particular academic [4].



**Figure-30: ORCID has the advantage of showing the important indexations and sources that are considered to increase the academic value of the academic productivity of a particular academic.**

### ACKNOWLEDGEMENT

Some figures in this book were included in previous publications of the author, but he has their copyright.

**Conflict of interest:** None.

### References

- 1-AI-Mosawi AJ. Our Experience with continuing medical education (CME) programme. The CME center, University Hospital in AL-Kadhimiya. The N Iraqi J Med 2005; 1(3): 8-9.
- 2-AI-Mosawi AJ. The Practice of evidence based medicine. The N Iraqi J Med 2006; 2(1):8-10.
- 3-AI-Mosawi AJ. Continuing Medical education: Principles, concepts, and standards. The N Iraqi J of Medicine 2007; 3 (2): 32-35.
- 4-AI-Mosawi AJ. Principles of academic

medical leadership. LAP LAMBERT Academic Publishing: April, 2022 (ISBN-13:978-620-4-74976-1, ISBN-10: 6204749765).

5-AI-Mosawi AJ. Academic Medical Leadership: An overview of the emerging concepts and ideas. Clinical medical reviews and reports March 11, 2020; 2(3):1-3. Doi:10.31579/cmrr.2020/014

6-AI-Mosawi AJ. Medical leadership. 1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing: 2012 (ISBN: 9783848405008).

7-AI-Mosawi AJ. Medical and healthcare leadership: A training course. 1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing: 2016 (ISBN: 978-3-659-85373-9).

8-AI-Mosawi AJ. Leadership in medicine and healthcare: An accredited training course. 1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing: 2017 (ISBN: 978-3-659-92501-6).

9-AI-Mosawi AJ. Leadership in medicine and healthcare: an overview of the emerging concepts and principles. Lupine Online Journal of Medical Sciences 2019; 4(1): 344-351. DOI: 10.32474/LOJMS.2019.04.000179.

10-AI-Mosawi AJ. Advanced medical leadership course: A practical textbook for trainers. Scholar's press: August 2020 (ISBN-13:978-613-8-93835-4, ISBN-10:6138938356).

11-AI-Mosawi AJ. An introduction to medical and healthcare leadership: A training course. Scholars' Press: 2021 (ISBN: 978-613-8-95168-1).

12-AI-Mosawi AJ. ResearchGate RG score in the determination of modern pioneers of medicine. LAP LAMBERT Academic Publishing: August 31, 2021 (ISBN-13: 978-613-9-84645-0, ISBN-10: 6139846455).

13-AI-Mosawi AJ. Academic Medical leadership in Iraq: Researchgate ranking. Scholars' Press: September 2021 (ISBN: 978-363-9-85994-2).

14-AI-Mosawi AJ. H-index: Determination of Academic Leaders in Pediatrics from Iraq. Scholars' Press: October, 2021 (ISBN: 978-613-8-96109-3).

15-AI-Mosawi AJ. Super elite pediatricians from 146 developing countries: Researchgate analysis. LAP Lambert Academic Publishing: December, 25, 2021 (ISBN-13: 978-620-4-73258-9, ISBN-10: 6204732587).

- 16-Al-Mosawi AJ. Corso avanzato di leadership medica: Un libro di testo pratico per formatori : Formazione per la leadership medica: Un libro di testo (Italian Edition). Edizioni Sapienza : 2020 (ISBN-13:978-620-2-69082-9, ISBN-10:6202690828).
- 17-Al-Mosawi AJ. Fortgeschrittener medizinischer Führungskurs: Ein praktisches Lehrbuch für Ausbilder. Ausbildung medizinischer Führungskräfte: Ein Lehrbuch. Erfahrung (German Edition). Verlag Unser Wissen :2020 (ISBN-13: 978-620-2-69079-9. ISBN-10:6202690798).
- 18-Al-Mosawi AJ. Curso de liderazgo médico avanzado: Un libro de texto práctico para entrenadores. Entrenamiento de liderazgo médico: Un libro de texto (Spanish edition). Ediciones Nuestro Conocimiento:2020 (ISBN-13:978-620-2-69080-5, ISBN-10: 6202690801).
- 19-Al-Mosawi AJ. Curso avançado de liderança médica: Um manual prático para instrutores. Formação em liderança médica: Um livro de texto. Edições Nosso Conhecimento (Portuguese edition):2020 (ISBN-13:978-620-2-69085-0, ISBN-10:6202690852).
- 20-Al-Mosawi AJ. Prinzipien der medizinischen und gesundheitlichen Führung :Ein akkreditierter Schulungskurs (German edition). Verlag Unser Wissen: 2021. (ISBN: 978-620-3-95224-7).
- 21-Al-Mosawi AJ. Principi di leadership medica e sanitaria: Un corso di formazione accreditato (Italian edition). Edizioni Sapienza: 2021 (ISBN: 978-620-3-95226-1).
- 22-Al-Mosawi AJ. Princípios de Liderança Médica e de Saúde: Um Curso de Treinamento Credenciado (Portuguese edition). Edições Nosso Conhecimento: 2021 (ISBN: 978-620-3-95227-8).
- 23-Al-Mosawi AJ. Принципы лидерства в медицине и здравоохранении: Аккредитованный учебный курс (Russian edition). Sciencia Scripts: 2021 (ISBN: 978-620-3-95228-5).
- 24-Al-Mosawi AJ. Cours de leadership médical avancé: Un manuel pratique pour les formateurs. Formation médicale au leadership: Un manuel. Editions Notre Savoir (French edition): 2020 (ISBN-13: 978-620-2-69081-2, ISBN-10: 620269081X).
- 25-Al-Mosawi AJ. Cursus medisch leiderschap voor gevorderden: Een praktisch lesboek voor trainers. Medische leiderschapstraining: Een leerboek (Dutch edition). Uitgeverij Onze Kennis : 2020 (ISBN-13: 978-620-2-69083-6, ISBN-10: 6202690836).
- 26-Al-Mosawi AJ. Zaawansowany kurs przywództwa medycznego: Praktyczny podręcznik dla trenerów. Medyczne szkolenie przywództwa: Podręcznik (Polish edition). Wydawnictwo Nasza Wiedza:2020 (ISBN-13: 978-620-2-69084-3, ISBN-10: 6202690844).
- 27-Al-Mosawi AJ. Продвинутый курс по медицинскому лидерству: Практическое учебное пособие для тренеров. Обучение медицинскому лидерству: Учебник (Russian edition). Sciencia Scripts: 2020 (ISBN-13: 978-620-2-69086-7, ISBN-10:6202690860).
- 28-Al-Mosawi AJ. The Contribution of Iraqi Physicians to International Book Authorship. LAP Lambert Academic Publishing: December, 2021 (ISBN-13:978-620-4-72822-3, ISBN-10: 6204728229).
- 29-Al-Mosawi AJ. Der Beitrag irakischer Ärzte zur internationalen Buchautorschaft: Analyse der Deutschen Nationalbibliothek (Deutsche Nationalbibliothek) [German edition]. Verlag Unser Wissen : 2022 (ISBN-13: 978-620-4-44354-6, ISBN-10: 6204443542).
- 30-Al-Mosawi AJ. A contribuição dos médicos iraquianos para a autoria de livros internacionais: Análise da Biblioteca Nacional Alemã (Deutsche Nationalbibliothek) [Portuguese edition]. Edições Nosso Conhecimento : 2022 (ISBN-13: 978-620-4-44361-4, ISBN-10: 6204443615).
- 31-Al-Mosawi AJ. Вклад иракских врачей в международное книготворчество: Анализ Немецкой национальной библиотеки (Deutsche Nationalbibliothek) [Russian edition]. Sciencia Scripts : 2022 (ISBN-13: 978-620-4-44362-1, ISBN-10: 6204443623).
- 32-Al-Mosawi AJ. La contribución de los médicos iraquíes a la autoría de libros internacionales: Análisis de la Biblioteca Nacional Alemana (Deutsche Nationalbibliothek) [Spanish edition]. Ediciones Nuestro Conocimiento: 2022 (ISBN-13: 978-620-4-44356-0, ISBN-10: 6204443569).
- 33-Al-Mosawi AJ. History of Medicine: The Eminent Contributions of Iraqi Pediatricians to

International Conferences. Open Access Journal of Biogenic Science and Research (ISSN: 2692-1081) Jul 7, 2020; 2(4):1-8 Doi:10.46718/JBGSR.2020.01.000053

34-Al-Mosawi AJ. The eminent contributions of Iraqi pediatricians to conferences. 1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing, Saarbrücken; Germany, 2020 (ISBN: ISBN-978-620-2-67013-5).

35-Al-Mosawi AJ. Видный вклад иракских педиатров в проведение конференций: История медицины (Russian Edition). Scienza Scripts: 2020 (ISBN-10: 6202592311 , ISBN-13: 978-6202592314).

36-Al-Mosawi AJ. Die herausragenden Beiträge irakischer Kinderärzte zu Konferenzen : Geschichte der Medizin (German edition). Verlag Unser Wissen. 2020 (ISBN: 978-620-2-59227-7)

37-Al-Mosawi AJ. Las eminentes contribuciones de los pediatras iraquíes a las conferencias: Historia de la medicina (Spanish edition). Ediciones Nuestro Conocimiento: 2020 (ISBN: 978-620-2-59228-4).

38-Al-Mosawi AJ. Les éminentes contributions des pédiatres irakiens aux conférences: Histoire de la médecine (French edition). Editions Notre Savoir. 2020 (ISBN: 978-620-2-59229-1).

39-Al-Mosawi AJ. Iraqi pediatricians' contribution to international journals editorship. LAP Lambert Academic Publishing: 2022 (ISBN-13: 978-620-4-73793-5, ISBN-10: 6204737937).

40-Al-Mosawi AJ. Medical journals editorship and medical editing. 1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing: 2013 (ISBN: 978-3-659-47281-7).

41-Al-Mosawi AJ. Der Beitrag irakischer Kinderärzte zur Herausgabe internationaler Zeitschriften (German edition). Verlag Unser Wissen : 2022 (ISBN-13: 978-620-4-461 47-2, ISBN-10: 6204461478).

42-Al-Mosawi AJ. La contribution des pédiatres irakiens à la rédaction de revues internationales (French edition). Editions Notre Savoir: 2022 (ISBN-13: 978-620-4-461 49-6, ISBN-10: 6204461494).

43-Al-Mosawi AJ. La contribución de los pediatras iraquíes a la dirección de revistas internacionales (Spanish edition). Ediciones Nuestro Conocimiento: 2022 (ISBN-13: 978 -

620-4-46148-9, ISBN-10: 6204461486).

44-Al-Mosawi AJ. Il contributo dei pediatri iracheni alla redazione di riviste internazionali (Italian edition). Edizioni Sapienza: 2022 (ISBN-13: 978-620-4-46150-2, ISBN-10: 6204461508).

45-Al-Mosawi AJ. The scientific productivity and academic output of elite Iraqi pediatricians: h-index reliability indicators. International Journal of Research Studies in Medical and Health Sciences 2019; 4(8): 3-6.

46-Al-Mosawi AJ. Scientific publication productivity and research activities of Iraqi pediatricians in the field of pediatric nephrology: a bibliometric analysis to identify pioneers. Advancements in Journal of Urology and Nephrology 2019; 1(1): 1-10.

47-Al-Mosawi AJ. Researchgate activity of elite pediatricians from ten Arab countries .1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing: 2020 (ISBN: 978-620-0-53215-2).

48-Al-Mosawi AJ. Scientific Productivity of Influential Pediatricians from Ten Arab Countries: Researchgate Analysis. Canadian Journal of Biomedical research and technology 2020; 2(4):1-3.

49-Al-Mosawi AJ. A Corrected H-Index for Academic Leadership Determination: A Bibliographic Research. Archives of Health Science (ISSN 2641-7456) 2020 August 29; 4 (1):1-7. Doi: 10.31829/2641-7456/ ahs2020-4(1)-119.

50-Al-Mosawi AJ. A corrected H-index for academic leadership determination .1<sup>st</sup> ed., Saarbrücken; LAP Lambert Academic Publishing: 2020 (ISBN: 978-620-2-67787-5).

51-Al-Mosawi AJ. H-index: Determination of Academic Leaders in Pediatrics from Iraq. Scholars' Press: 2021 (ISBN: 978-613-8-96109-3).

52-Al-Mosawi AJ. Índice H: Determinação de Líderes Acadêmicos em Pediatria do Iraque (Portuguese edition). Edições Nosso Conhecimento: 2021 (ISBN-13: 978-620-4-12653-1, ISBN-10: 6204126539).

53-Al-Mosawi AJ. H-индекс: Определение академических лидеров в педиатрии из Ирака (Russian edition). Scienza Scripts: 2021 (ISBN-13: 978-620-4-12654-8, ISBN-10: 6204126547).

54-Al-Mosawi AJ. Academic Medical leadership in Iraq: Researchgate ranking. Scholars' Press: 2021 (ISBN: 978-363-9-85994-2).

55-Al-Mosawi AJ. Leadership médicale académique en Irak: Classement Researchgate (French edition). Editions Notre Savoir: 2021 (ISBN-13: 978-620-4-06932-6, ISBN-10: 6204069322).

56-Al-Mosawi AJ. Liderazgo médico académico en Irak: Clasificación Researchgate (Spanish edition). Ediciones Nuestro Conocimiento: 2021 (ISBN-13: 978-620-4-06931-9, ISBN-10: 6204069314).

57-Al-Mosawi AJ. Super elite pediatricians

from 146 developing countries: Researchgate analysis. LAP LAMBERT Academic Publishing: 2021 (ISBN-13: 978-620-4-73258-9, ISBN-10: 6204732587).

58-Al-Mosawi AJ. Des pédiatres de super élite de 146 pays en développement: Analyse de Researchgate (French edition). Editions Notre Savoir: 2022 (ISBN-13: 978-620-4-41273-3, ISBN-10: 6204412736).

59-Al-Mosawi AJ. Super-Elite-Pädiater aus 146 Entwicklungsländern: Researchgate-Analyse (German edition). Verlag Unser Wissen: 2022-01-18 (ISBN-13: 978-620-4-41275-7, ISBN-10: 6204412752).