

Health communication research in the Arab world: A bibliometric analysis

Nour Mheidly ¹, Jawad Fares ²

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ABSTRACT

Objective Health communication is a novel field in the Arab world. This study aimed to describe and characterise health communication research activity in the region.

Methods and analysis The PubMed database was used to search for publications related to health communication from Arab states. Publications were classified according to country of origin, without limiting for date. Research activity and output were examined with respect to population and the gross domestic product (GDP) of each Arab state.

Results A total of 66 contributions related to health communication came from the Arab countries, with the first paper published from Lebanon in 2004. Health communication-related publications constituted 0.03% of the total biomedical research contributions published by the Arab world since 2004 and 1% of the world's health communication literature. Number of health communication contributions ranged between 0 and 12, with Lebanon producing the most output. Qatar ranked first with respect to contributions per population, whereas Lebanon ranked first with respect to contributions per GDP. Algeria, Comoros, Djibouti, Iraq, Kuwait, Libya, Mauritania, Somalia, Sudan and Yemen had nil health communication publications.

Conclusion Recognising the barriers facing the health communication field and addressing them carefully are vital in the plan to better the Arab world's output and contribution in the field.

INTRODUCTION

Health communication is a broad term that is mainly defined as the study or use of communication techniques to improve the health sector. It includes strategies used to build awareness and spread information about health among people, in general, and patients, in specific.¹ The importance of this field is that it allows people to acquire a better understanding of how to maintain a healthy lifestyle and to learn more about the major health risks that threaten their communities. In addition, it promotes effective means of communication among health workers of various disciplines, as well as between health workers and patients.²

The term 'health communication' formally originated in the mid-1970s when members of an International Communication

Strengths and limitations of this study

What is already known about this subject?

- ▶ Health communication, as an independent field, is new to the Arab world.

What does this study add?

- ▶ Health communication-related publications constituted 0.03% of the total biomedical research contributions published by the Arab world since 2004, and 1% of the world's health communication literature. Publication revolved around three main themes: the role of media in health promotion, health communication in conflict and the role of health communication in the fight against health risk factors. Lebanon was the Arab state that is most indulged in the health communication field.

How might this impact on clinical practice or future developments?

- ▶ Political and economic perturbations in the Arab world contribute to the decline in research activity in the health communication field. Budgetary efforts should be dedicated to fund biomedical research, in general, and health communication research, in specific. This work calls for academic programmes that explore health communication and emphasise the importance and influence of the field in the health sector.

Association interest group adopted the label 'health communication.'³ Nonetheless, the inter-relation that exists between 'health' and 'communication' developed long before; its fundamentals emerged and were practised since the birth of humanity.⁴ Across generations, people communicated on healthy lifestyles, practices and diets. Ancient people, for example, taught each other the different ways to treat wounds, what to eat and how to act when danger approaches.⁵ Interest and progress in the field soared high in the early 21st century as a result of growing interest in public health policy.³ Major health risks like smoking, substance abuse, obesity and infectious diseases gave the field a strong push forward to garner more interest and increased funding for research and organisational structuring. The recent rise in the influence of social media facilitated the



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¹Faculty of Information, Lebanese University, Beirut, Lebanon

²Department of Neurological Surgery, Northwestern University Feinberg School of Medicine, Chicago, Illinois, USA

Correspondence to

Dr Jawad Fares;
jawad.fares@northwestern.edu

promotion of health awareness campaigns led by governmental and non-governmental agencies. This increased the impact of the field and highlighted the importance of exploring, in depth, the science and art that lie at the basis of health communication.

In the past two decades, the health scene in the Arab world has become increasingly intricate. Although countries of the Arab world are pretty diverse, most of the 22 countries that comprise the Arab League and share the common language of Arabic are embroiled in conflict, instability, poverty and/or corruption.⁶ This takes its toll on the health sector, whereby the need to address public health problems like war injuries, refugee crises, pollution, and communicable and non-communicable diseases rises.⁷

As an independent field in the Arab world, health communication is relatively new. In 2019, the first undergraduate programme in health communication was launched in Lebanon, becoming the first of its kind in the Arab world.⁸ Yet, the growth of the field in this region requires substantial investment to develop and tailor health communication strategies to public health needs. As such, research becomes imperative to the process. In this work, we aimed to explore the bibliometric patterns of health communication research in the Arab world. Subsequently, this will allow us to evaluate the current status of the field in the region and to identify inadequacies in the present case.

MATERIALS AND METHODS

On 7 October 2019, we searched the PubMed database of the National Centre for Biotechnology Information to find publications related to health communication in the Arab world. Following the schema of Fares *et al*,⁹ relevant contributions were identified by using the term 'health communication' as a constant in the search field, followed by a separator Boolean operator (AND), followed by the name of the Arab country (eg, 'Morocco'). We searched for all publications since database inception, without specifying a time frame. Then, we identified the publications that had authors contributing from 1 of the 22 states of the Arab world.

We calculated the number of contributions per country's population to eliminate bias due to varying population sizes. We did so by dividing the number of contributions by the average population estimate (per one million individuals) of each country since the year of the first health communication publication in each country and the year of the first Arab publication in health communication, respectively.

We also calculated the number of contributions per gross domestic product (GDP) in order to eliminate any bias due to the vast differences in the GDPs of Arab countries. We did so by dividing the number of contributions in each country by its average GDP in billion US\$ since the year of the first publication in health communication

in the specific country and the year of the first Arab publication in health communication, respectively.

Information on Arab world population and GDP was retrieved from the websites of the World Population Review (<http://worldpopulationreview.com/>) and The World Bank Open Data (<https://data.worldbank.org/>), respectively.

Patient and public involvement statement

This research was done without patient involvement. Patients were not invited to comment on the study design and were not consulted to develop patient-relevant outcomes or to interpret the results. Patients were not invited to contribute to the writing or editing of this document for readability or accuracy.

RESULTS

In total, 66 contributions related to health communication originated from the Arab world, with the first paper published in 2004. Health communication-related publications constituted 0.03% of the total biomedical research papers published by the Arab world and 1% of the world's health communication literature (table 1).

Since 2004, the health communication research output in the Arab world has been on the rise (figure 1). Research activity peaked during the year 2017, during which a collection of 31 research items (~47% of the total Arab contributions in health communication) were published. With respect to output per Arab country, the number of health communication publications ranged from 0 (Algeria, Comoros, Djibouti, Iraq, Kuwait, Libya, Mauritania, Somalia, Sudan and Yemen) to 12 (Lebanon) (figure 2).

Analysing the research activity of each state separately and the Arab world as a whole in terms of contributions per population estimate, we found that Qatar ranked first with a ratio of 4.3 contributions per million persons, ahead of Bahrain and Lebanon with ~2 contributions per million persons each (table 2). Similarly, in terms of contributions per national GDP, Lebanon ranked first with a ratio of 0.308 contributions per billion US\$, ahead of Jordan and Palestine, which scored ratios of 0.214 and 0.209 contributions per billion US\$, respectively (table 3). Algeria, Comoros, Djibouti, Iraq, Kuwait, Libya, Mauritania, Somalia, Sudan and Yemen all ranked last with nil health communication publications.

DISCUSSION

Health communication is a novel field in the Arab world. The 22 Arab countries combined contributed only 1% of the world's literature on health communication. Publication revolved around three main themes: the role of media in health promotion, health communication in conflict and the role of health communication in the fight against health risk factors. Lebanon was the Arab state that is most indulged in the health communication field.

Table 1 Ratio of health communication contributions to total biomedical contributions in the Arab world since the year of first publication by state and the year of first Arab publication (2004), as of 7 October 2019

Country	Year of first publication in the country	Health and communication contributions (n)	Biomedical contributions since the year of first health communication per state (total n)	Per cent of health communication contributions since the year of first publication	Contributions since 2004 (total n)	Per cent of health communication contributions since 2004
Algeria	–	–	–	–	–	–
Bahrain	2017	3	644	0.47	1821	0.165
Comoros	–	–	–	–	–	–
Djibouti	–	–	–	–	–	–
Egypt	2017	6	23 651	0.025	60 212	0.010
Iraq	–	–	–	–	–	–
Jordan	2013	6	3 459	0.173	4 843	0.124
Kuwait	–	–	–	–	–	–
Lebanon	2004	12	11 144	0.108	11 144	0.108
Libya	–	–	–	–	–	–
Mauritania	–	–	–	–	–	–
Morocco	2013	5	7 011	0.07	10 750	0.047
Oman	2014	4	4 228	0.09	7 333	0.055
Palestine	2017	2	837	0.24	2 088	0.096
Qatar	2014	10	7 583	0.13	9 181	0.109
Saudi Arabia	2015	9	36 788	0.02	56 285	0.016
Somalia	–	–	–	–	–	–
Sudan	–	–	–	–	–	–
Syria	2019	1	302	0.33	3 005	0.033
Tunisia	2019	1	1 630	0.06	18 028	0.006
United Arab Emirates	2011	7	7 245	0.096	8 754	0.080
Yemen	–	–	–	–	–	–
Total		66			193 444	0.034

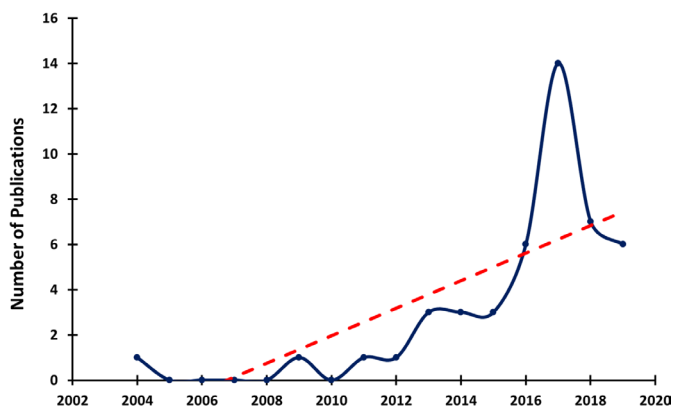


Figure 1 Distribution of health communication research publications in the Arab world across the years. Note the increasing trend of health communication research output (red line).

Health communication needs and concerns differ from one Arab state to another. The research focus of high-income countries with rapid social and economic development, like Saudi Arabia, Qatar and the United Arab Emirates, is different from that of low-income countries like Somalia, Sudan and Yemen, which suffer from lack of resources and political instability. Moreover, middle-income countries like Lebanon, Egypt and Jordan, which possess limited resources but well-developed health services, shared some of the concerns of high-income and low-income countries.

Many health communication papers were themed depending on the context and policy landscape of the Arab state of origin. In Lebanon, health communication studies mostly focused on three major health problems that the nationals in the country deal with: cancer, smoking and the refugee crisis. Promoting cancer

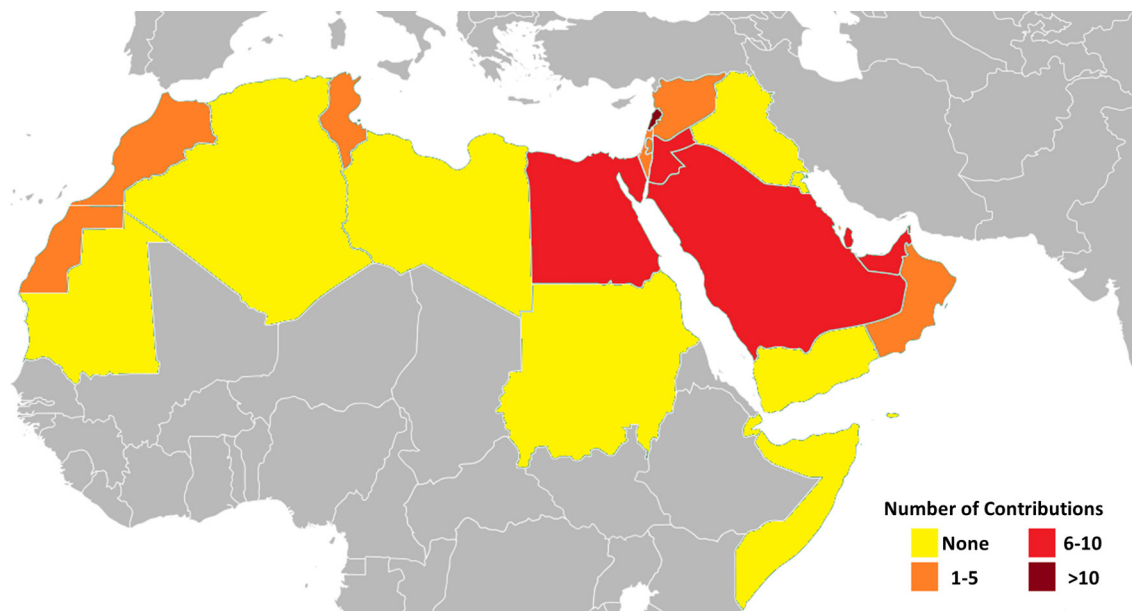


Figure 2 Distribution of health communication research contributions in the Arab world.

Table 2 Ratio of health communication contributions to population estimate (per million individuals) in the Arab world since the year of first publication by state and the year of first Arab publication (2004) as of 7 October 2019

Country	Year of first publication of the country	Health and communication contributions (n)	Average population since the year of first publication ($\times 10^6$)	Ratio of health communication papers per million individuals since year of first publication	Average population since 2004 ($\times 10^6$)	Ratio of health communication papers per million individuals since 2004
Algeria	–	–	–	–	–	–
Bahrain	2017	3	1.570	1.911	1.340	2.239
Comoros	–	–	–	–	–	–
Djibouti	–	–	–	–	–	–
Egypt	2017	6	98.418	0.061	91.490	0.066
Iraq	–	–	–	–	–	–
Jordan	2013	6	9.735	0.616	8.814	0.681
Kuwait	–	–	–	–	–	–
Lebanon	2004	12	6.200	1.935	6.200	1.935
Libya	–	–	–	–	–	–
Mauritania	–	–	–	–	–	–
Morocco	2013	5	35.570	0.141	34.390	0.145
Oman	2014	4	4.640	0.862	4.110	0.973
Palestine	2017	2	4.840	0.413	4.480	0.446
Qatar	2014	10	2.710	3.690	2.320	4.310
Saudi Arabia	2015	9	33.050	0.272	30.920	0.291
Somalia	–	–	–	–	–	–
Sudan	–	–	–	–	–	–
Syria	2019	1	17.070	0.059	18.040	0.055
Tunisia	2019	1	11.690	0.086	11.130	0.090
United Arab Emirates	2011	7	9.500	0.737	8.660	0.808
Yemen	–	–	–	–	–	–

Table 3 Ratio of health communication contributions to GDP (billion US\$) in the Arab world since the year of first publication by state and the year of first Arab publication (2004) as of 7 October 2019

Country	Year of first publication of the country	Health and communication contributions (n)	Average GDP (in billion US\$) since the year of the first publication	Ratio of health communication papers per average GDP (in billion US\$) since year of first publication	Average GDP (in billion US\$) since 2004	Ratio of health communication papers per average GDP (in billion US\$) since 2004
Algeria	–	–	–	–	–	–
Bahrain	2017	3	36.59	0.0820	27.05	0.111
Comoros	–	–	–	–	–	–
Djibouti	–	–	–	–	–	–
Egypt	2017	6	243.13	0.025	215.90	0.028
Iraq	–	–	207.73	0.0337	150.81	0.046
Jordan	2013	6	38.34	0.156	27.92	0.214
Kuwait	–	–	–	–	–	–
Lebanon	2004	12	38.90	0.308	38.89	0.308
Libya	–	–	–	–	–	–
Mauritania	–	–	–	–	–	–
Morocco	2013	5	108.27	0.0462	93.17	0.054
Oman	2014	4	15926.33	0.0003	5340.54	0.001
Palestine	2017	2	14.56	0.1374	9.57	0.209
Qatar	2014	10	175.73	0.057	132.47	0.075
Saudi Arabia	2015	9	692.57	0.012	569.18	0.016
Somalia	–	–	–	–	–	–
Sudan	–	–	–	–	–	–
Syria	2019	1	40.410*	0.0247	31.92	0.031
Tunisia	2019	1	36.861*	0.0271	41.24	0.024
United Arab Emirates	2011	7	378.80	0.0185	313.18	0.022
Yemen	–	–	–	–	–	–

*GDP for the year 2018 was used since the 2019 GDP was not available.
GDP, gross domestic product.

awareness and establishing treatment guidelines were the focus of two health communication papers,^{10 11} especially after the rise in the number of cancer cases in the past decade.^{12–15} Another study explored the role of religion in dictating smoking behaviour in the country.¹⁶ Similarly, in Palestine, religion was also studied in terms of its influence on alcoholic habits.¹⁷ The use of media strategies to influence national habits and health policy was also highlighted in other studies.^{18–21} The refugee crisis, resulting from the repercussions of conflict and war in the region, was emphasised when exploring communal adaptability during times of uncertainty.²² In Jordan, health communication publications centred on an important national issue: family planning. One study explored a client-centred family planning service and the role it can play in attaining Jordan's goal of reducing the total fertility rate to its desired rate by 2030.²³ In Saudi Arabia, studies mostly focused on the role of social media in promoting health awareness.^{24–28} Interestingly, Twitter was the social

media platform mostly investigated.²⁹ In the United Arab Emirates, one study analysed the content of Arabic and English newspapers in promoting a vaccination campaign against the human papillomavirus.³⁰ Another study focused on childhood obesity perception among parents to promote the management and prevention of this health concern in the country.³¹ Physical inactivity and obesity were also highlighted in a study from Oman, whereby the perceptions of public health managers were explored in regard to this health inadequacy.³² In Morocco, one study explored courtesy stigma as a process experienced by health professionals providing HIV/AIDS care.³³ Another study focused on ways to improve the outcomes of paediatric Hodgkin lymphomas.³⁴ In Qatar, health communication research tackled the low literacy levels of the migrant workforce, and thus one study focused on developing easy-to-understand illustrations for medicine labels to ease comprehension and to promote medication safety.³⁵ The Qatari emergency risk



communication and response to the Middle East respiratory syndrome outbreak in 2013 was also explored.³⁶ Recommendations were drawn to develop more rigorous strategies that address proper health communication across social media platforms.³⁶

Some collaborative efforts between researchers from different Arab states addressed common health concerns, like smoking and viral infections. With smoking rates being among the highest worldwide in the Arab world, one study focused on health warning labels that are waterpipe-specific; researchers from Lebanon, Syria and Tunisia contributed in the process.³⁷ Scientific evidence about the waterpipe's harmful effects and the importance of tobacco control were emphasised in the labelling strategies.³⁷ Furthermore, endemic infectious disease, like viral hepatitis C, necessitated contributions from several affected Arab states. Researchers from Egypt, Jordan, Morocco, Oman, Qatar and Bahrain collaborated to study disease burden³⁸ and epidemiological patterns³⁹ and to develop strategies to counter the disease.⁴⁰

Still, the research output of the Arab world in health communication is low. The poor status of biomedical research in the Arab world, in general, can be a major reason behind the low output in health communication.^{41–43} The lack of infrastructure and the continuous migration of researchers towards Western countries that offer better living and work opportunities exacerbate the problem.^{6 42} More importantly, political instability and military conflicts in many of the Arab states,⁴⁴ like Syria, Yemen, Iraq, Palestine and Libya, are a major obstacle for the development of clinical research, in general, and health communication, in specific.

Arab states with nil publications in health communication were mostly low-income countries like Yemen, Djibouti, Mauritania and Comoros. These countries suffer from widespread poverty, low security, poor health services, and lack of education and proper nutrition. Studies show that poor governance, exploitation and technological dependency are tightly linked to poor scientific performance.^{42 45–47} As such, academic research is sidelined over fulfilling more basic needs. Surprisingly, Kuwait, which is the fourth richest country in the world per capita, did not have any papers in health communication. High-income Arab states have the ability to allocate more resources for biomedical research and, accordingly, publish more research on health communications than most of the other Arab countries.

The rise in health communication research in the past few years can be attributed to the rising importance of social media platforms as tools of influence and communication. As such, components of the health sector in the Arab world are investing more in platforms like Twitter, Facebook and Instagram to promote healthy practices and improve the physician–patient relationship.^{28 48} The increasing investment in research and development also contribute to the increase in research output. In addition, the inauguration of the first health communication programme in the Arab world, at the American University

of Beirut,⁸ contributes to raising awareness on the importance of the field of health communication and reflects the placement of Lebanon as the country with the highest output in health communication research.

CONCLUSION

Health communication is new to the Arab world. This is reflected by the poor research output in the field. Many factors contribute to this decline in research activity; political and economic instability and the rise of wars are key.

In order to change the current status quo, budgetary efforts should be dedicated to fund biomedical research, in general, and health communication research, in specific. Moreover, academic programmes exploring health communication and emphasising the importance and influence of the field in the health sector should be established and promoted in all the states of the Arab world. This will contribute to the advancement of the field and, subsequently, improve public health and individual well-being in the Arab world.

Twitter Nour Mheidly @nourmheidly and Jawad Fares @DrJawadFares

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ORCID iDs

Nour Mheidly <http://orcid.org/0000-0001-8609-1238>

Jawad Fares <http://orcid.org/0000-0002-5368-8764>

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