Health and Urbanism: General Statistics in Literature and Research Trends

Nassima Khenchouche[1], Labii Belkacem[2], Amel Benzaoui[3]

[1]*"CITY AND HEALTH Lab",Dept. of Architecture, Salah Boubnider University, "Constantine 3".*

[2]*"CITY AND HEALTH Lab", Salah Boubnider University, "Constantine 3".*

[3]*Architectural and Urban Quality Assessment Lab, Dept. of Architecture, Larbi Ben M'hidi Uni-versity, Oum-El-Bouaghi, Algeria.*

Abstarct

Health and urbanism have long been strongly related. This connection is contingent upon a number of variables, including geographic area, income level, health system, and economic system and so on. In this paper a quantification of documents in Scopus database related to urbanism and health is developed. As a result, using bibliometrix methodologies, this study was aimed to synthesis and reflect a thorough knowledge of existing experts' papers in the topic of health and urbanization from the past to the present. The outcome presented the most relevant statistics from studies in this subject. The wealthy themes were exposed. Results confirmed that the driving topics are "Human" and "public health", while the most recent keywords are "Covid19" and "built environment".

Key words: Literature, Urbanism, Health, Bibliometrix, Scopus.

INTRODUCTION

Urbanism for health is for residents. It emphasizes that a city is more than buildings, streets, and outdoor venues; it's a living entity whose health is closely tied to that of its residents. The current state of cities, sometimes determined by urbanization, can be harmful to health. Health is physiological, emotional, and interpersonal well-being, not only the lack of sickness or disability. Everyone person, regardless of skin color, country, political convictions, or socioeconomic situations, has the entitlement to the finest possible healthcare coverage. The following concept of health from OMS (1946) questions the conventional view that primary care exclusively impacts health care providers(Barton & Tsourou, 2000). The idea that urban planning may improve people's health (understood in its broadest meaning) across multiple cities is still a long way from being a reality (Barton, Collaborateur, & Tsourou, 2004).

Over the past several years, there has been a global rise in the number of studies that investigate the possible effects of the environment on human health and urban planning. The gathering of the necessary data is required for better understanding in this field of scientific research. Statistics related to scientific production that link urbanization and health force their importance. Numerous scientific tools and platforms are devoted to scientific publication in general and to a particular area of study in particular. Web of Science and Scopus are the most widely used scientific platforms in terms of the number of documents and articles but also in term of scientific quality. Also, Tools and techniques such as bibliometrix are used to quantify the extracted documents so researchers could be able to use their data to develop science and research and to detect the most related topics, keywords, affiliations, countries and so on.

This research aims to determine the overall trend in the subject, the core publications, the significant subjects, and the ongoing research thematic. Data preprocessing was conducted in order to match the data with the Bibliometrix utility suite's criteria.

METHODOLOGY

The methodology is based on the documents extracted from Scopus platform, and the most relevant statistics are shown in Table 1. The main steps are as follow:

1.Data gathering

2. Data formatting

3. Integration in Bibliometrix

4. Visualization and analysis.

In this study, the content group was chosen from the Scopus core collection, which can give complete bibliography information, such as titles and publisher's information as well as keywords, and references. Title-ABS-KEY (health and urbanization) was utilized as a search term for the theme's historical and current developments.

Table 1. Statistics from SCOPUS on the selected Topic

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1925:2022
Sources (Journals, Books, etc)	277
Documents	352
Average years from publication	8.68
Average citations per documents	10.45
Average citations per year per doc	1.473
References	18227
DOCUMENT TYPES	
article	224
book	17
book chapter	38
conference paper	39
editorial	4
erratum	1
note	2
review	26
short survey	1
DOCUMENT CONTENTS	
Keywords Plus (ID)	1593
Author's Keywords (DE)	1062
AUTHORS	
Authors	809
Author Appearances	856
Authors of single-authored documents	137
Authors of multi-authored documents	672
AUTHORS COLLABORATION	
Single-authored documents	147
Documents per Author	0.435
Authors per Document	2.3
Co-Authors per Documents	2.43
Collaboration Index	3.28

RESULTS AND DISCUSSIONS

Main Statistics

As indicated in the graph (Figure 1), the number of publications addressing health and urban planning begins to increase in 2007. Despite the appearance of some important attempts to address this subject that has existed since the existence of humanity in parallel to researchers efforts to define the topic before 2005, the actual flow is observed after 2011 and the number has tripled or even quadrupled by 2021, indicating academics' interest in the topic. This is mainly related to the appearance of covid19, a novel factor that has altered the course of health and urban planning research.

« International journal of environmental research", "Sustainability", "Cities and health", and "Environment and planning A", are the most widely referenced journals in health and Urbanism research as shown in Figure 2, and they all have a very high impact factor. While the most cited conferences were "IOP conferences, Earth and environment". The significance of this topic may be seen in this context.
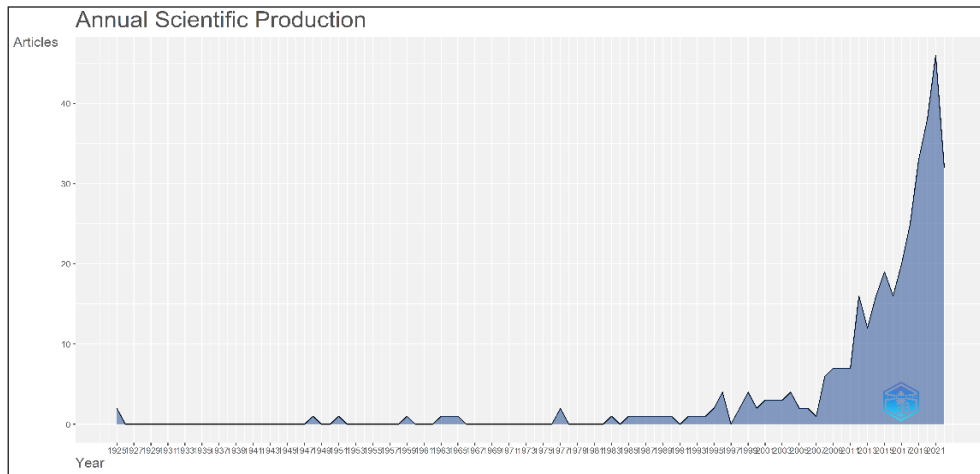
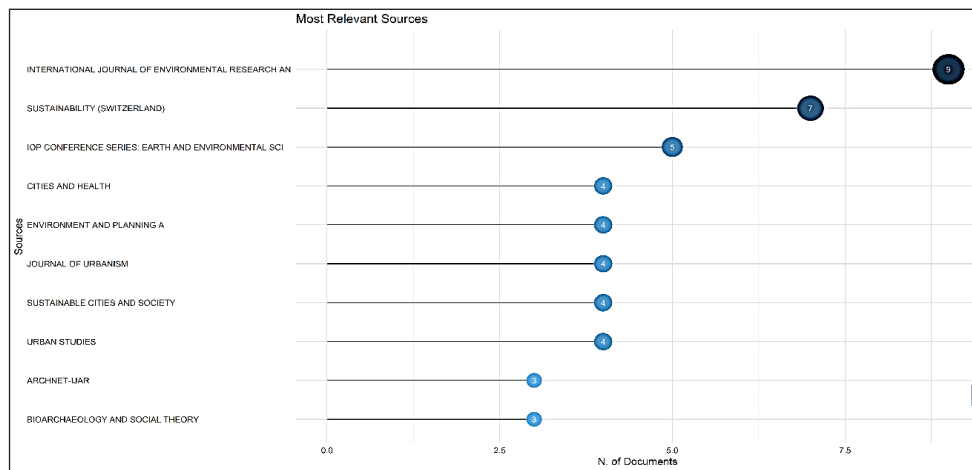**Figure 1.** Number of publications in SCOPUS platform

Figure 2. Most relevant sources and journals of the extracted data

Most Cited Documents

As indicated in Table 2, (Annear et al., 2014; Kokotsaki, Menzies, & Wiggins, 2017; Neckerman et al., 2009; Roy, 2010) are the most cited from the extracted documents. For example, (Annear et al., 2014) reported in a systematic review that Environment (such as architectural, ecological, and social circumstances) were an influential factor on adult risk for health problems engagement, according to the number of research found through a literature review, whereas a smaller value of the data indicated no apparent connection. While (Patterson & Chapman, 2004)focused on another subject and concluded that walking rates for people aged 65 and beyond found found to be higher in classic urban districts that offered a variety of amenities and had accessibility for pedestrians.

Table 2. Most cited documents in the field

N	Paper	Total Citations in documents related to the topic
01	(Roy, 2010)	666
02	(Neckerman et al., 2009)	145
03	(Annear et al., 2014)	112
04	(Kokotsaki et al., 2017)	110
05	(Russo & Cirella, 2018)	89
06	(Patterson & Chapman, 2004)	89
07	(Moreno & Ochoa, 2011)	86
08	(Hemminki, Malin, & Topo, 1993)	77
09	(Allan & Bryant, 2011)	74
10	(Kitchin, Lauriault, & McArdle, 2015)	68

Thematic Map

Graph shown in Figure 3 demonstrate the thematic distribution of knowledge from extracted documents (Aria & Cuccurullo, 2017; Callon, Courtial, & Laville, 1991). The study concepts subsequently dispersed according to their centrality and density, indicated by the X and Y directions, and classified into four segments. Centrality describes the level of interactivity among predetermined categories, while density indicates the inner strength parameters of predetermined categories. The first quarter has strong, well-developed concepts. Well-developed but essential second quarter. 3rd concepts were developing or vanishing, minimally matured, and peripheral. The fourth quarter topics weren't well-developed. Figure 3 shows that "Developing countries" and "environment design" were considered as themes with high strength. And "Humans" and "Environment design" were motor themes.
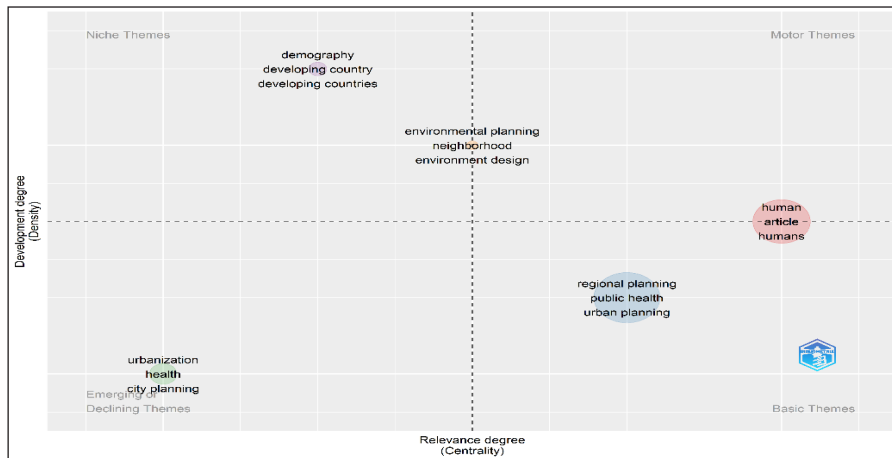

Figure 3. Thematic map of the TOPIC

Keywords and Trends

According to the graph in Figure 5, the most recently used keywords are "Covid19", "Built environment", "Infrastructure", and "epidemic". After the arrival of Covid19, the world appears to have abruptly stopped. While the most cited keywords according to Figure 4 were "Human", "Urbanization", "Public health" and "Regional planning".

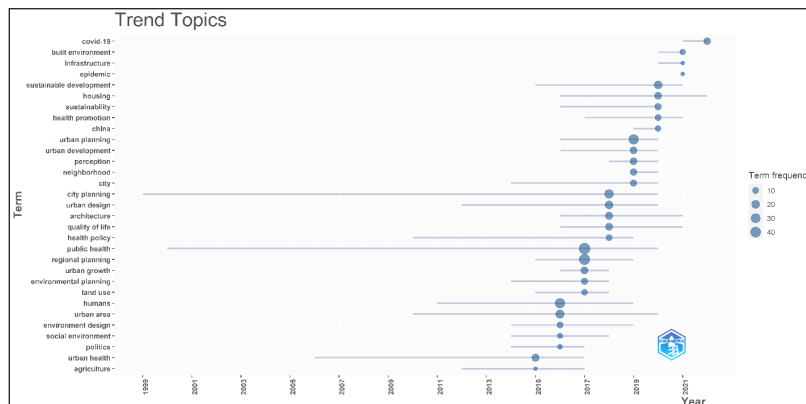**Figure 4.** word-cloud of the most cited keywords in the Topic

Figure 5. Most recent keywords in the topic

CONCLUSION

Researchers have been discussing studies on health and urbanism, as seen by the growing number of publications over the past few years. In order to conduct an analysis of the corpora that was obtained from the online databases, statistical and bibliometric techniques were utilized. Both "Covid19" and "built environment" are regarded as the most current keywords in the field, and the essential publications and papers that make up the field's backbone have been found and exposed. Further development could be done to extract the most relevant content for a systematic analysis on Health and Urbanism.

REFERENCES

1. Allan, P., & Bryant, M. (2011). Resilience as a framework for urbanism and recovery. *Journal of Landscape Architecture*, *6*(2), 34–45. https://doi.org/10.1080/18626033.2011.9723453

2. Annear, M., Keeling, S., Wilkinson, T., Cushman, G., Gidlow, B., & Hopkins, H. (2014). Environmental influences on healthy and active ageing: A systematic review. *Ageing and Society*, *34*(4), 590–622. https://doi.org/10.1017/S0144686X1200116X

3. Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

4. Barton, H., Collaborateur, C., & Tsourou, C. (2004). Urbanisme et santé. *S2D Association Internationale Pour La Promotion de La Santé et Du Développement Durable*.

5. Barton, H., & Tsourou, C. (2000). *Urbanisme et santé. Un guide de l'OMS pour un urbanisme centré sur les habitants*. 194. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0010/102106/E93982.pdf

6. Callon, M., Courtial, J. P., & Laville, F. (1991). Co-word analysis as a tool for describing the network of interactions between basic and technological research: The case of polymer chemsitry. *Scientometrics*, *22*(1), 155–205. https://doi.org/10.1007/BF02019280

7. Hemminki, E., Malin, M., & Topo, P. (1993). Selection to postmenopausal therapy by women's characteristics. *Journal of Clinical Epidemiology*, *46*(3), 211–219. https://doi.org/10.1016/0895-4356(93)90068-C

8. Kitchin, R., Lauriault, T. P., & McArdle, G. (2015). Smart cities and the politics of urban data. *Smart Urbanism: Utopian Vision or False Dawn?*, 16–33. https://doi.org/10.4324/9781315730554

9. Kokotsaki, D., Menzies, V., & Wiggins, A. (2017). On alternative smart cities: from a technology-intensive to a knowledge-intensive smart urbanism. *Critical Studies on Security*, *2*(2), 210–222.

10. Moreno, E., & Ochoa, F. (2011). Turismo sostenible, cadena de valor y participación comunitaria en Suesca (Cundinamarca), Colombia. *Anuario Turismo y Sociedad*, *XII*, 197–214.

11. Neckerman, K. M., Lovasi, G. S., Davies, S., Purciel, M., Quinn, J., Feder, E., ... Rundle, A. (2009). Disparities in urban neighborhood conditions: Evidence from GIS measures and field observation in New York city. *Journal of Public Health Policy*, *30*(SUPPL. 1), 264–285. https://doi.org/10.1057/jphp.2008.47

12. Patterson, P. K., & Chapman, N. J. (2004). Urban form and older residents' service use, walking, driving, quality of life, and neighborhood satisfaction. *American Journal of Health Promotion*, *19*(1), 45–52. https://doi.org/10.4278/0890-1171-19.1.45

13. Roy, A. (2010). *Poverty Capital*. https://doi.org/https://doi.org/10.4324/9780203854716

14. Russo, A., & Cirella, G. T. (2018). Modern compact cities: How much greenery do we need? *International Journal of Environmental Research and Public Health*, *15*(10). https://doi.org/10.3390/ijerph15102180