

Impacts on Medicinal Plants due to Soil Pollution

Miles Jaxon*

Royal Geographical Society, Kensington Gore London SW7 2AR (N 1090229) UK

Abstract

Human health care systems have long utilized medicinal plants. In every World Health Organization (WHO) region, at least 80% of people say they use herbal medicines. As a result, climate change's loss of access to medicinal plants could have devastating effects on global health care systems. A landmark 2017 report on health and climate change acknowledged the role of the media in addressing climate change and health issues, but media coverage of the climate crisis and its effects on medicinal plants appears to be lacking. We conducted newspaper content analysis to evaluate media coverage of the extinction of medicinal plants as a result of climate change in Africa, Asia, and the Middle East. Out of 198 articles published between 2008 and 2021, 19 were eligible. In addition, we carried out a systematic search of studies that had been published in peer-reviewed journals during the same time period to ascertain the extent to which reviewed newspaper articles cited scientific papers on the impact of the climate crisis on medicinal plants. 52 of the 478 papers found were published in Asian and African nations, making them eligible.

Keywords: World Health Organization; Global health

Introduction

Nineteen newspaper articles did not cite any of the 52 scientific papers, indicating that climate change-related studies on medicinal plant extinction were not getting much attention. A lack of trans disciplinary initiatives, partnerships, and relationships between stakeholders, including journalists and researchers in Africa, Asia, and the Middle East, working to highlight how climate change is affecting medicinal plants may be the cause of the surprising lack of articles in newspapers on the subject. Accordingly, we propose support methodologies for advancing media inclusion of the environment emergency and its effects on restorative plants.

Restorative plants have for some time been essential for the medical services frameworks of humankind. In all World Health Organization (WHO) regions, at least eighty percent of people say they use herbal medicines, with 87% and 90%, respectively, in the WHO African region and Eastern Mediterranean region. As a result, climate change's loss of access to medicinal plants could have devastating effects on global health care systems.

The Rockefeller Foundation–Lancet Commission in 2015 identified issues and solutions for preserving human health in environments that are becoming increasingly hazardous as a result of climate change. In addition, medicinal plants were included in the services provided by natural systems in the planetary health-focused report. A recent study reveals that climate change has contributed to the extinction of nearly 600 plant species, including medicinal plants, over the past 250 years, highlighting the danger to these health supports. As a result, scientists have issued numerous and consistent warnings regarding the adverse effects of climate change on medicinal plants. Overharvesting as a result of increased human populations, economic pressures, and decreasing environmental resources may also interact with climate change to make medicinal plants more vulnerable and accelerate their extinction.

Transdisciplinary approaches are required to address the health effects of climate change. The 2017 report on The Lancet Countdown on Health and Climate Change [recognized the role of mass media in addressing climate change and health issues. For instance, the 2017 report suggested that in order to evaluate public engagement, it was necessary to keep track of things like “global newspaper reporting on health and climate change” and “in-depth analysis of newspaper coverage on health and climate change. However, it appears that there

is insufficient media coverage of the climate crisis and its effects on medicinal plants [1-5].

Discussion

We used the LexisNexis database to conduct a newspaper content analysis in order to evaluate media coverage of the extinction of medicinal plants in Africa, Asia, and the Middle East as a result of climate change. We utilized the terms “(restorative plants or spice or home grown medication) AND (environmental change or an Earth-wide temperature boost) AND (extinct*)”. The hunt was restricted to articles distributed in English in papers situated in Africa, Asia and the Center East by 31 December 2021. Articles can be restricted to these global regions by LexisNexis. Out of 198 articles, only 19 were found by our search. Eight of the 19 eligible articles published between 2008 and 2021 mentioned specific medicinal plants that were in danger due to climate change. Sadly, there were no Middle Eastern articles. Lesotho and Zambia each had one of the eight articles from African newspapers, with two each from Nigeria, South Africa, and Zimbabwe. In addition, India had eight of the eleven Asian articles, while Malaysia, Nepal, and Pakistan each had one. Nine of the newspaper articles talked about particular medicinal plants going extinct as a result of the climate crisis. The variable “mention of specific medicinalplants” was found to have a Cohen's kappa coefficient of 0.895, which is considered to indicate that the coders were almost completely in agreement.

We conducted a systematic search of studies published in peer-reviewed journals indexed in four primary databases in order to determine the extent to which scientific papers on the climate crisis on medicinal plants were published during the same time period. Web of Science, PROQUEST Agricultural and Environmental Science, Scopus, and PubMed. The key terms “(medicinal plants or herbs or herbal

*Corresponding author: Miles Jaxon, Royal Geographical Society, Kensington Gore London SW7 2AR (N 1090229) UK, E-mail: jaxonmiles@edu.uk

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medicine) AND (climate change or global warming) AND (extinct*)” were used in the search strategy. In all databases, titles and abstracts were used as search fields. The systematic review management software Rayyan was used to import the bibliographical citations from these databases. The titles and abstracts were independently reviewed by two authors-BA and MKA. 52 of the 478 papers found were published in Asian and African nations, making them eligible. Only five of the 52 articles were published in Africa between the years 2010 and 2021.

Some important problems were found by the content analysis. To begin with, there were not very many articles regarding the matter. Second, it was encouraging that three articles were written by scientists—one by a pharmacist, two by scientists with expertise in forestry. Thirdly, only three of the 19 articles cited scientific studies or reports, indicating that newspaper coverage of research on medicinal plants and climate change was lacking. Importantly, none of the previously examined 19 newspaper articles cited any of the 52 scientific papers. A lack of transdisciplinary initiatives, partnerships, and relationships between stakeholders, including journalists and researchers in Africa, Asia, and the Middle East, working to highlight how climate change is affecting medicinal plants may be the cause of the surprising lack of articles in newspapers on the subject [6-10].

Conclusion

There are particular advantages to our newspaper content analysis projects. A science journalist (BA) and specialists in medicinal plants (IKA and MLKM) were part of our trans disciplinary team. We also concentrated on regions with a high rate of medicinal plant use and an assumed lack of adequate climate change-related research. Our work additionally has a few noted impediments. We only looked at newspapers, so we might have missed important coverage in other media, like radio and television. Additionally, we excluded articles written in languages other than English, such as French, from our focus. Last but not least, even though LexisNexis is a comprehensive database of newspapers, it does not index every English newspaper in

Africa, Asia, and the Middle East. As a result, some articles might not have been included. However, the findings suggest that more specific trans disciplinary strategies are required to support media advocacy on the impact of the climate crisis on medicinal plants in Africa, Asia, and the Middle East.

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