

Running head: #MENOPAUSE

ARTICLE TYPE: Short Communications

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10 #Menopause: examining the frequency of communications about menopause on Twitter
11 between 2014 and 2022
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19 Authors: Myra S Hunter^{1*}, Mahmoud El-Haj^{2*}, Eleanor Thorne², Amanda Griffiths³, Claire
20 Hardy²
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26 Institutional Affiliation(s): ¹Kings College London, UK
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28 ²University of Lancaster, UK; ³University of Nottingham, UK;
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36 *Corresponding author: Myra Hunter, email: myra.hunter@kcl.ac.uk
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#Menopause: examining the frequency of communications about menopause on Twitter
between 2014 and 2022

Abstract

This study explored the use of Twitter to communicate about menopause. Tweets in English, posted between January 2014 and December 2022 with the hashtag “menopause” were extracted. Total global tweets and those from the UK, USA, Australia and Canada were examined. Globally there were 314,974 tweets about menopause over this period, with an annual average of 34,997. There were notable differences between countries, with a large increase in use in the UK in 2018 and 2019, a reducing trend in use in the USA with a smaller increase in 2018 and 2019, and low stable usage in Australia and Canada.

Keywords: menopause; social media; Twitter; UK; USA; Canada; Australia

Introduction

Recent attention has turned to social media and the menopause. For example, a study of posts on the social media platform Instagram [1] found images, video and/or text about menopause that included advertisements (48%), advice on self-care (47%), and physical health (44%). Twitter is a popular social media platform, with an estimated 556 million active users [2]; it provides a microblogging and social network service where users can communicate via “tweet” messages with a 280-character limit. A recent study [3] examined #menopause tweets between November 2019-2021 in order to understand the hashtag categories (or “ontology”) being used with tweets. The study highlighted the relevance of Twitter for patients, patient advocacy groups, medical practitioners and academic communication about menopause. In the current report, the global prevalence of communications about the menopause on Twitter between 2014 and 2022 is explored, with specific focus on Twitter use over time in UK, USA, Canada and Australia.

Method

All tweets from 1 January 2014 and 31 December 2022 with a hashtag “menopause” were extracted from Twitter (API v.2). Descriptive analyses examined the total global frequency of tweets over time. This analysis was repeated for predominantly English-speaking countries: United Kingdom (UK), United States of America (US), Canada (CA), and Australia (AU). In

1 this analysis only tweets with geotags, providing information about their location and country
2 of origin, could be included.
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4 **Results**

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7 Globally there were 314,974 communications about menopause over this period, with an
8 annual average of 34,997, range 31,936 and 36,103 (see Figure 1a). The number of global
9 tweets about menopause was fairly consistent between 2014 and 2019, with a slight decrease
10 between 2020 and 2021 and a partial recovery in 2022.
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15 Fifteen percent of menopause tweets with geo-tags were identified as originating from the
16 four selected countries (n=47,499). Between 2014 and 2022 there were 22,582 from the US,
17 21,385 from the UK, with fewer from Canada (2513) and Australia (1019) (Fig.1b).
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21 Considerable differences were evident between these countries in the frequency of tweets
22 over time. There was a large increase in use in the UK in 2018 and 2019, a reducing trend in
23 use in the USA with a smaller increase in 2018 and 2019, and low stable usage in Australia
24 and Canada.
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31 **Discussion**

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34 To the authors' knowledge, this study presents the first up-to-date exploration of prevalence
35 of communications about menopause, over time, on the social media platform Twitter.
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39 In 2022, the US, where Twitter was originally launched, had the most Twitter users
40 worldwide (76,900,000), followed by Japan (58,950,000), India (22,100,000) then the UK
41 (18,400,000); Canada (7,000,000) and Australia (4,030,000) had markedly fewer [2]. Twitter
42 tends to be used more by those aged 25-34, and by men (56%). In this context the global
43 number of tweets about menopause is noteworthy. Moreover, the differences between the
44 four countries in menopause tweets appears to reflect their general levels of Twitter use.
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46 However, we found high levels of use in the UK peaking in 2018 and 2019 and then settling
47 at a rate more than twice that prior to 2017. In the US there was a general gradual decrease in
48 use with similar but less dramatic increases in 2018 and 2019. There are likely to be multiple
49 explanations for these recent increases in twitter use.
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57 The UK Twitter usage about menopause since 2018 has coincided with active menopause
58 awareness campaigns, such as #MakeMenopauseMatter, with women's experiences of
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menopause being spoken about openly, discussed in journals, newspapers, books and on major television networks. For example, in 2018 Mariella Frostrup openly explored ‘The Truth about Menopause’ on BBC1, and Davina McCall’s documentaries on menopause, in 2021 and 2022, coincided with an increased use of menopause hormone therapy (MHT). The trends in the US appear to be broadly similar to those in the UK, for example, with articles in the media, such as Time magazine in 2019, and celebrity interest; Naomi Watts, Gwyneth Paltrow and Oprah Winfrey have all spoken about their menopause experiences, and Michelle Obama tackled menopause on her podcast in 2020.

In 2015 the first UK NICE guidance, and in 2017 the North American Menopause Society updated position statement, were published. Both provided evidence-based information as well as reassuring women about the risk-benefit ratio of MHT, which may have represented turning points for both interest in menopause and MHT. In the UK, in 2015, 4.08 million items for HRT were prescribed which increased to 7.80 million items in 2021-2022; this increase represented a gradual increase since 2015 and then a 35% increase from 2020-2022 [4]. Twitter is likely to be influential in the provision of information due to its use by patients, patient advocacy groups and medical practitioners and academic communication about menopause [3].

There has also been a keen interest in improving women’s experience of menopause in the workplace, and many companies in the UK now have menopause guidance or policies. It is likely that cohort effects are relevant, in that the current generation of women approaching menopause may be keener to talk about bodily changes, and less tolerant of the stigma and lack of support for menopause.

The downsides include the lack of regulation and tweets lacking evidence or tweets that provide ‘misinformation’, as well as the focus on negative experiences that are likely to reinforce negative expectations and a biomedical rather than a biopsychosocial perspective on menopause. As a result, as well as being potentially informative and supportive, messaging can also lead to anxiety, unnecessary confusion and possibly overtreatment or use of ineffective therapies [5].

In terms of limitations, we only considered one type of social media and only tweets with the hashtag “menopause” were examined. It is possible that other tweets without this label were

1 missed. Furthermore, not all tweets have geo-tags, so the numbers using Twitter are likely to
2 be an underestimation of the use in the four countries.
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4 More research is needed about the contents of menopause tweets. Education about use of
5 social media sites, challenging 'misinformation', and increasing the profiles of professional
6 bodies that rely on evidence-based information are recommended.
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10 11 12 **Contributors**

13 Myra S. Hunter contributed to the concept, analysis and writing of the manuscript. Mahmoud
14 El-Haj contributed to the concept, analysis, and writing of the manuscript. Eleanor Thorne
15 contributed to the concept, analysis and writing of the manuscript. Amanda Griffiths
16 contributed to the concept and writing of the manuscript. Claire Hardy contributed to the
17 concept, analysis, and writing of the manuscript.
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25 **Funding**

26 No funding from an external source was received for this study.
27

28 **Ethical approval**

29 The study protocol was approved by the Faculty of Science and Technology Ethical
30 Committee at Lancaster University, UK (Ref: FST-2021-0629-RECR-1).
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40 **Research data (data sharing and collaboration)**

41 There are no linked research data sets for this paper. Tweet IDs can be made available on
42 request.
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49 **Declaration of competing interests**

50 CH is owner of the company Hardy People Ltd., and received honorarium payment by Pfizer
51 unrelated to this work. ET is the owner of Example Coaching and Consulting Ltd. The
52 authors MEH, AG and MSH declare that they have no competing interests.
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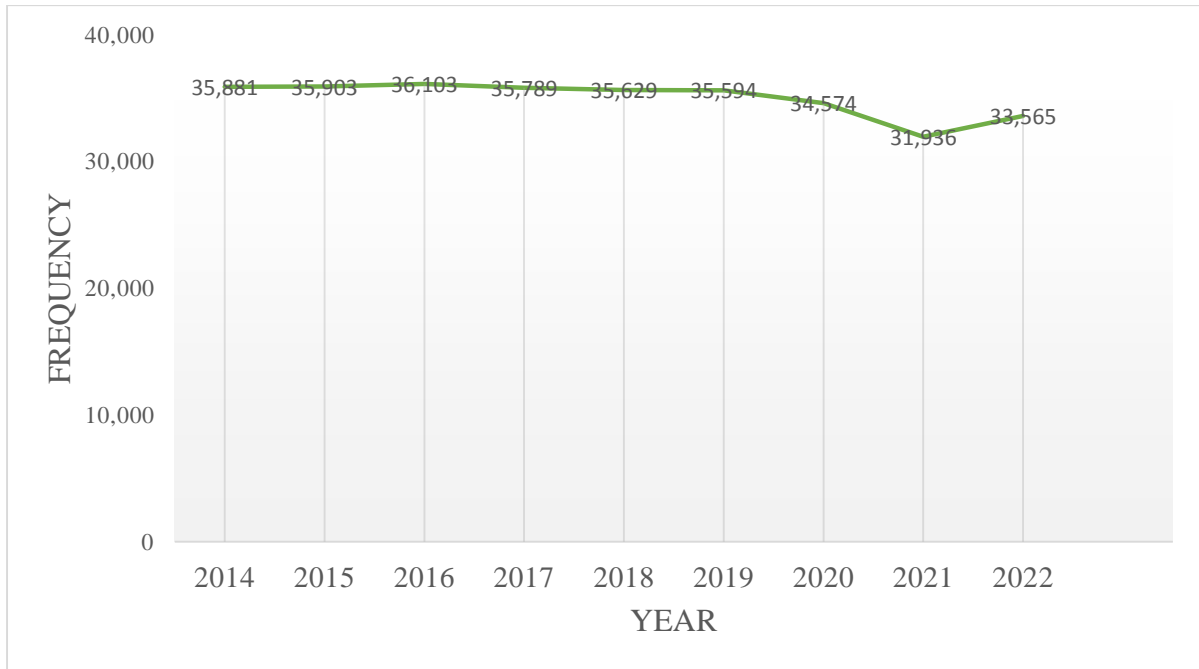
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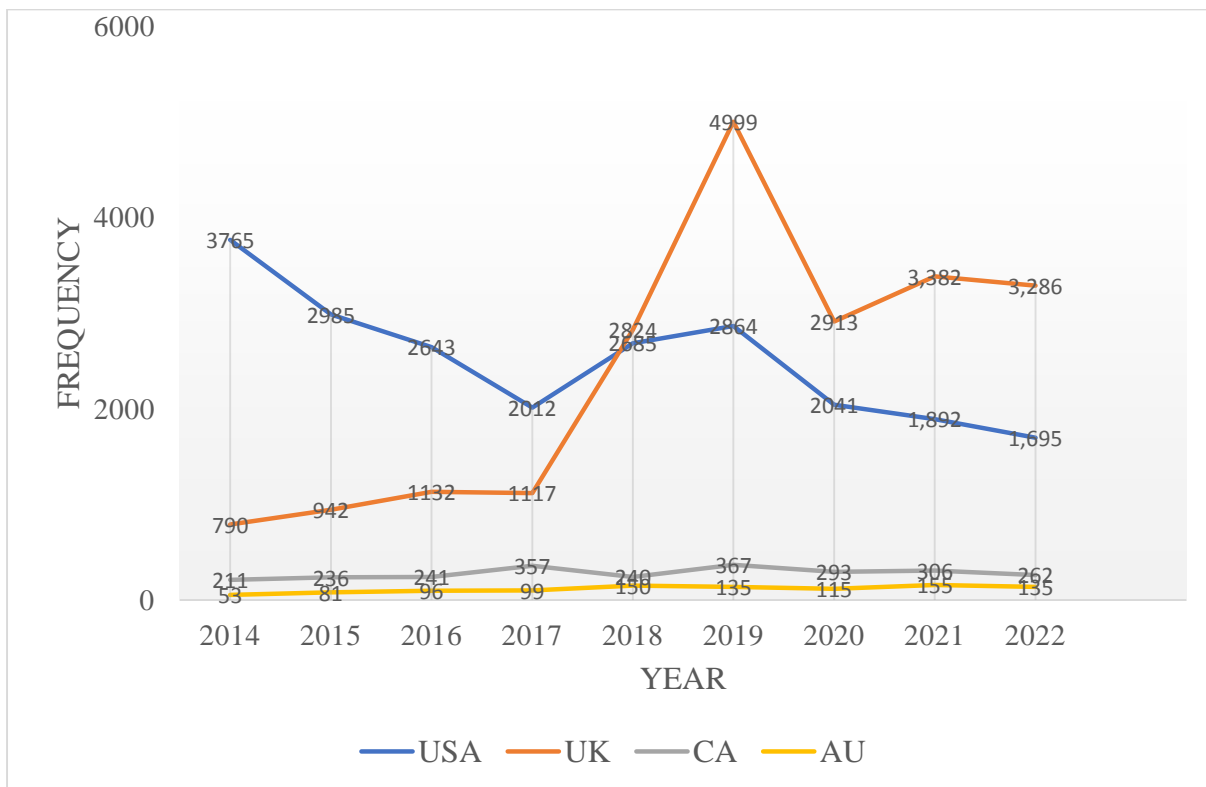
Figure 1.

Frequency of #menopause tweets between Jan 2014 and Dec 2022 for (a) Total use and (b) Use in US, UK, Canada, Australia.

(a)



(b)



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MSH reports advisory board/consultation for Rightsteps and Hello Therapeutics. ET is the owner of Example Coaching and Consulting Ltd. MEH, and AG declare report no competing interests. CH is owner of the company Hardy People Ltd., and received honorarium payment by Pfizer unrelated to this work.

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