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Global communication practices of physiotherapists on Twitter

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ABSTRACT

Background: Social media have offered professional communities the opportunity to be digitally connected. The hashtag #GlobalPT was conceived and promoted from 2015 and has acted as a slogan for the globally connected physiotherapy community. This study explores the global reach and dominant communication themes that emerged during a set time frame that represented the single largest period of #GlobalPT activity.

Method: Using purposive sampling, 988 publically available tweets including the hashtag #GlobalPT were studied. Descriptive statistical analysis was conducted to quantify tweet data and qualitative, inductive phenomenological thematic content analysis to describe latent themes within the tweets.

Results: #GlobalPT activity was noted across 24 countries (UK top represented) and four languages (929/988, 94.03% in English). Europe was the most active area (738/988, 74.70%), followed by Oceania (120/988, 12.15%). Thematic content analysis identified eight themes within the communication practices of the physiotherapy community on Twitter. The three major themes were: sharing information (108/377, 28.65%), promotional activity (93/377, 24.67%) and positive feedback (69/377, 18.30%).

Conclusion: The professional communication practices of physiotherapists on Twitter show a global spread of communication. The themes provide preliminary evidence for social media’s unique potential to assist the World Confederation for Physical Therapy strategic vision.

Introduction

Social media have come a long way in the last decade, with their application as tools for health increasingly noted in academic literature [1–3]. The very principles underpinning these tools, such as: fostering active engagement, participation, collaboration and exchange of user-generated content, have re-engineered how individuals communicate and source information [4–6]. The social web has increased the speed, spread and availability of information and human capital. Hence, health professionals, consumers, patients, researchers, policy makers and various other stakeholders now have unprecedented access to information and support outside traditional channels and in real time [2, 7]. Salient to this study, social media afford health professional communities of practice the opportunity to develop and mature [8–10]. Various professional bodies are realising the potential of social media, in particular platforms like Twitter. This is a medium well suited to disseminate information, globalise conferences and stimulate professional networking [11]. Examples of professional bodies in health realising the benefit of Twitter can be seen in the active online communities of urology and cardiology [6, 12, 13]. Published literature cementing the development of allied health communities of practice using social media is still relatively immature. However, commentaries of physiotherapists’ professional use of social media are continuing to emerge [10, 14].

The World Confederation for Physical Therapy (WCPT) gathers every 2 years for its international congress. Since 2015, the last two congress programmes have included a social media networking session. In 2015, members of the physiotherapy global community recognised the potential of social media to support its goals of supporting a digital network and more broadly the goals of WCPT [15]. Twitter was chosen as the primary platform to drive communication beyond the congress based upon its reputation for fostering connections, networking and information dissemination at international level [11]. On 3 May 2015 during this networking session, the hashtag, #GlobalPT was conceived and since then, has acted as a signal for a globally connected physiotherapy community.

Since its inception, the GlobalPT hashtag has perpetuated, trended and become a badge of recognition amongst its users and serves as a useful case study. In conjunction with the inception of this online professional network, the WCPT also released its strategic plan towards 2021, presenting short- term, middle and long-term outcomes, which the
An overarching goal of this research is that the global physiotherapy community better understands how social media can be used as a tool for discussion of professional issues, while also supporting the outcomes of the WCPT strategic plan [15]. Hence, this case study aims to investigate the issues, while also supporting the outcomes of the WCPT strategic plan. Also, to describe the community in terms of activity, particular community of practice and the WCPT strategic plan. Hence, using purposive sampling, the study team sourced tweet data for #GlobalPT, during conferences and beyond that time. Primary objectives are to examine the relative success of Twitter in driving communication, while also exploring themes underlying this practice during a period that the WCPT strategic plan was developed.

Method

The setting for this exploration was publically accessible tweets that have included #GlobalPT in the body. Healthcare hashtag analysis platform ‘Symplur’ (http://www.symplur.com/) was used to examine Twitter activity using #GlobalPT.

The next phase of the study was sourcing tweet data for analysis. Various Twitter data mining plugins exist through software proprietors. Several were contacted to obtain cost estimates to retrospectively source the full #GlobalPT data set. It was affirmed that estimates for overall tweet volume for #GlobalPT were too low and dispersed (approximately 11,000 tweets). Hence, it would be costly and not be feasible to mine the full data set.

Therefore, using purposive sampling, the study team retrospectively explored what WCPT-related events had taken place over the hashtag’s lifetime to examine what periods could have provided sufficient Twitter activity to analyse. Over the hashtag’s lifetime, October, 2015 showed a wide sustained peak that corresponded to three major concurrent physiotherapy events that took place at that time. This concurrence has not occurred since: (1) the Australian Physiotherapy Association (APA) national conference, (2) Physiotherapy (Chartered Society of Physiotherapy – CSP) UK conference, and (3) Release of the WCPT draft strategic plan/ preliminary consultation [15].

Thus, for study validity, October 2015 was chosen as a data set to analyse in this study. Using Symplur, freely accessible PDF transcripts of #GlobalPT tweets were obtained from that period. These were converted into de-identified comma-separated value (CSV) files by a software engineer at the University of Melbourne for analysis.

The data set was a total of 988 publically available tweets from the period of October 1st to 31st October 2015 that included the hashtag #GlobalPT. Retweets were removed to avoid coding duplication, leaving a total of 398 original tweets for analysis. Each tweet remained linked to its creator with a unique identifier rather than the individual’s Twitter handle to maintain privacy and avoid interpretation bias. Secondly, the refined data set was swept for relevance and accuracy. Tweets containing no content other than the hashtag (2/398), as well as those with only a URL (19/398) were excluded from further coding. This left a final set of 377 tweets for thematic content analysis (TCA).

Data analysis

The study investigators independently explored the data set to develop the preliminary coding frame and at each phase, the reviewers acted independently. During Phase 1, data were coded with reference to the underlying communication theme latent within the tweet’s content (Figure 1). In Phase 2, the study’s chief investigator collated the preliminary list of themes. During Phase 2 (2b), themes were further refined grouping like similar themes together. A third review (2c) and conferral with the other members of the study team led to a final refinement of this list. In Phase 3, the investigators conferred and deliberated applying the refined coding schema to the tweets and to discuss any discrepancy in coding. In the final phase (Phase 4), the chief investigator reviewed the coding and finalised any discrepant coding (Supplementary Table S1).

Descriptive statistical analysis quantified aggregate data, as well as a detailed qualitative analysis to explore themes latent within the data set. Where geographic metadata was not available, location of the Tweeter was inferred from biographical profile information and most recent tweets. Pertinent to this research was the examination of themes within the communication practices of this global physiotherapy community. To explore these themes, TCA was utilised, employing a grounded theory inductive phenomenological approach on the content of tweets to unveil any emergent themes.

Results

Descriptive statistics

For the full purposive data set of 988 tweets, n = 294 individuals. Retweets accounted for 590/988 (59.72%) of activity. Only 174/988 (17.61%) of tweets originated from official accounts of physiotherapy Member Organisations (MOs), with most activity coming from an individual personal account...
level (763/988, 77.23%). A modest amount of activity could be attributed to accounts belonging to the physiotherapy student community (51/988, 5.16%) suggesting students are also active within the global digital community.

**Geographical spread of #Global PT**

Hashtag, #GlobalPT activity for October 2015 represented 24 countries, as well as a few multinational accounts (we refer to ‘multinational accounts’ as those representing entities that span more than one country) (Table 1). Four languages were identified. English (929/988, 94.03%), followed by Spanish (33/988, 3.34%), Portuguese (19/988, 1.92%) and French (7/988, 0.71%).

The greatest activity was observed in the United Kingdom (579/988, 58.60%) and Australia (119/988, 12.04%). Breakdown according to geographic region was also tabulated. Regional mapping was performed according to the United Nations (UN) geographical compositions [16]. Based on geographic mapping for #GlobalPT, the following was observed: Europe (Denmark, France, Iceland, Ireland, Italy, Malta, the Netherlands, Spain, Sweden, UK) was the most active region (738/988, 74.70%), followed by Oceania (Australia, New Zealand) (120/988, 12.15%) (Figure 2).

**Thematic content analysis**

TCA of 377 tweets identified eight themes underpinning digital communication (Supplementary Table S1). Of these, the three most frequent themes were: sharing information (108/377, 28.65%), promotional activity (93/377, 24.67%), and positive feedback (69/377, 18.30%) (Figure 3). Examples of tweets representative of each theme are provided, slightly paraphrased to maintain privacy.
The ‘sharing information’ theme was the most prevalent activity amongst the global digital physiotherapy community and was observed in the top five most re-tweeted tweets. Of these, ‘sharing information’ accounted for three of the top five most retweeted #GlobalPT activity. Participants appeared to send out tweets when they felt that the information may be of value or interest to other members of the community. The theme centred on instances of participants giving others information about a variety of topics. For example, this may have been general information about conference material, clearing up queries, sharing statistics, quoting others, provisions about professional issues, or sharing research evidence (to name a few):

there is one [physiotherapist] to 360ppl. [resp. 69]

Also, often tweets appeared to draw attention to key messages from WCPT leadership and other thought leaders in the profession:

#GlobalPT @xxxxxxx influencing global could impact locally. [resp. 24]

**Promotion: Individuals, events, groups, opportunities and courses**

Promotional themed tweets were also quite prevalent. As a theme category, promotion was one of the more encompassing themes. Early phases of the coding process showed promotion coded under a variety of separate themes, eventually amalgamated into one overarching ‘promotion’ theme. Tweets of varying nature under the umbrella of promotion were abundant. Promotional activity ranged quite commonly from promoting professional development courses, such as:

have you registered yet xxxx?, register here. [resp. 1]

to different resources, events, individuals, practice opportunities and special interest groups:

What could you do in Movember for Men’s Health? [resp. 219]

**Positive feedback: Positivity and reinforcement**

The positive feedback theme originally existed as two separate themes of ‘positivity’ and ‘feedback’ (Supplementary Table S1). One key message that was apparent among the communication practices of PTs was the overwhelmingly positive message individuals were willing to share with each other. Examples include:

thanks for the inspirational sessions [resp. 60], xxxxxx what a star, hard work and dedication paid off. [resp. 228]

xxxxxx leading the way for students in WCPT. [resp. 202]

Participants were seen to praise others for inspirational materials or presentations, offer support for new ventures or endeavours and encourage individuals in their professional pursuits.

**Networking: People coming together and conversations**

Perpetuation of the #GlobalPT movement was definitely seen in the growing number of conversations between individuals and groups. These ranged from more formal connections and arrangements to continue dialogue:

Me too! We’d like #GlobalPT community to join from abroad – one theme is joining in global PT. [resp. 77]

However, informal conversations and greetings often ensued, with the hashtag used in a relaxed and friendly tonality:

Good morning xxxx! Thanks for the message. [resp. 175]
**Leadership: Taking charge and driving the profession**

The leadership theme was a more niche identified theme. Tweets pertaining to leadership matters tended to relate more explicitly to the actions of the WCPT executive and/or a select number of individuals. Most tweets followed a similar structure. They tended to identify the individual at the centre of the message, and highlight their leadership qualities to the wider community. One example demonstrated this very well:

xxxxxx emphasising the importance of engaging using #GlobalPT as a student, also early career professional. [resp. 114]

Similarly, quotations were often used to emphasise a key message from a leader in order to solidify their credentials in this space.

xxxxxx indicates real leaders don’t create followers, they create leaders. [resp. 272]

**Prompting discussion: Fostering active engagement**

Prompting discussion largely centred on encouraging members of the global community to involve themselves in the wider physiotherapy community, not by passive engagement in #GlobalPT activity but to actively participate in influencing discussion. This theme was largely differentiated from the others in that the majority of interactions consisted of direct questions being posed or, crowd-sourcing of the #GlobalPT community to stimulate discussion. Certain tweets were good examples of this:

How can we use social media to target different groups? [resp. 183]

What does the future hold for the #GlobalPT community? [resp. 137]

**Clinical practice: the hands-on side of physiotherapy**

Clinical practice was evident in Twitter conversations, however not in abundance. Key messages latent within the practice theme largely focussed discussion on condition specific diagnostics and treatments. Low back pain (LBP) was the primary focus of the limited clinical practice discussion.

Here’s some differential diagnosis ideas for LBP. [resp. 206]

**Request information: Request for clarity**

The least observed theme was requesting information. Unlike prompting discussion, which also had ‘questions’ as its foundation, ‘requesting information was seen more as an attempt by the individual to clarify a concept, or ask a direct question for pragmatic and logistical reasons.

-can we assume discussions to be held in English? [resp. 33]

-need journal article by tomorrow.please help. [resp. 206]

**Discussion**

**Principal findings**

This study sheds light on digital communication practices of a physiotherapy community using an active example in #GlobalPT. Of the five strategic priorities set out by the WCPT, #GlobalPT most closely aligns to supporting outcome 1 (a global community of connected physiotherapists). Hence, the present study is not only grounded but has practical implications in helping the WCPT achieve this priority [15]. The WCPT’s strategic plan will be revisited around 2021. Hence, the present study is timely and can partly serve as an objective measure for Outcome 1 in the short-term [15].

**Descriptive findings**

Several key lessons for the future perpetuation of digital health professional communities of practice can be postulated from the activity of #GlobalPT on Twitter:

i. Retweets dominate:
Retweets accounted for around 60% of observed activity. This is not uncommon practice, as seen in other studies [17].

ii. People look to leaders:
The most re-tweeted content in this analysis were tweets of individuals in leadership positions with either the WCPT or MOs. This has lessons for driving professional communities and the WCPT. Whereby, leaders play a vital role in the success of building digital communities [18].

iii. Digital networking is most active during major professional events, like conferences.
As indicated, the analysis period corresponded to the APA and Physio (CSP) UK national conferences. Twitter activity at conferences has been the focus of previous research and suggests that at times of major events, professionals are likely to engage in information dissemination, and networking via social networks [6].

iv. Social media nurtures global networks of health professionals:
Whether it be the immediacy of information spread, or asynchrony enabled through social media, this study observed tweet activity across every major geographical region based on the United Nations geographical compositions [16] and is reported for similar health professional communities. Similar widespread geographic use amongst health professionals has been reported, commenting that Twitter for information dissemination, science communication sharing and networking [19–21].

**Thematic content analysis**

‘Sharing information’ was the most prevalent theme and tweets of a ‘promotional nature’ were also prevalent. While this can be useful, it is also advisable to be wary of Twitter and hashtags becoming a medium of over-zealous self-promotion [11,22] or, promotion of products, and events that
are not within the spirit of professional community building [23]. This raises further ethical queries for the use of social media, whereby promotional activity that is outside of the core values of the community can lead to mistrust and interfere with the goals of the community going forward [24,25].

There was less commentary for the theme of ‘clinical practice’. However, #GlobalPT has uniquely been a driver for professional issue conversation and may not be as readily identifiable or suitable for the perpetuation of clinical matters. Recent commentary has indicated that social media as a medium will play an ever-increasing role in the future of clinical knowledge translation and intra-professional networking due to its ability to share and propagate research in engaging and digestible formats [26]. Now that social media has been accepted as a legitimate tool for health and clinical communication, its role in changing the way clinical knowledge and research is transmitted in physiotherapy should not be underestimated and research is likely to continue to emerge in this area [26].

**Study limitations**

The analysed data set was only a small subset of all #GlobalPT communication, is limited to the hashtag and does not capture or represent all global physiotherapy communication. Thus, themes extracted are not fully representative of the range of communication practices of the wider physiotherapy community and professional issues will have been communicated by physiotherapists on Twitter without the hashtag. Data came from a period of two major international physiotherapy events (Australia and UK conference), and findings are skewed towards these regions.

This research is limited in its transferability across health professions. However, the authors believe that it is one of the few to examine intra-professional social media communication practices in allied health. One study of Australian health professionals’ use of social media did include physiotherapists [27]. However, the focus was on use compared to non-use of social media, not communication practices.

It should also be noted that observational research into the social media usage behaviours of individuals is inherently biased towards a self-selecting population [28]. Findings are representative of a subset of the physiotherapy community who readily engage with social media for the purposes of professional networking and communication. In line with previous research, the vast majority of allied health professionals still do not use social media for professional purposes. Based on the findings of the present study, the authors are optimistic that this paradigm may shift. It is duly acknowledged that findings for the communication practices and professional issues discussed by physiotherapists online are not necessarily a complete representation of professional issues across the profession.

**Conclusions**

Through Twitter, hashtags like #GlobalPT can support future development and perpetuation of global health professional networks. If Twitter continues to be facilitated by global leaders and advocates within the profession, this research has potential and implications for helping to shape the leadership and engagement activities of the WCPT and its MOs going forward.

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**Disclosure statement**

No potential conflict of interest was reported by the authors.

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