Exploring the opinions and perspectives of general practitioners towards the use of social networking sites for concussion management

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J PRIM HEALTH CARE 2013;5(1):36-42.

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ABSTRACT

INTRODUCTION: Social networking sites (SNSs) are increasingly being used for health-related purposes. Many patients now use sites such as Facebook to discuss symptoms, seek support, and search for advice on health conditions, including concussion. Innovative methods of delivering health information using these technologies are starting to emerge and it is important to seek the input of key stakeholder groups (including general practitioners) to establish their feasibility and to highlight areas of concern.

AIM: This study aimed to seek the opinions of general practitioners towards the use of SNSs in concussion management.

METHODS: Semi-structured interviews were captured with a digital voice recorder and analysed using interpretative description methodology. Participants were general practitioners whose caseload included persons with a concussion between the ages of 16 and 30 years, and who had treated a patient with a concussion in the past 12 months.

FINDINGS: The clinical experience of the participants ranged from 3 to 35 years and 50% of the participants had a Facebook account themselves. While all participants were positive towards the use of SNSs for this purpose, concerns were raised regarding the issues of privacy and moderation.

CONCLUSION: SNSs, particularly Facebook, have the potential (if correctly utilised) to be a viable adjunct to traditional concussion management programmes. In order for SNSs to be successfully used in this manner, the quality of information shared needs to be accurate and patients using them need to ensure that they get adequate cognitive rest.

KEYWORDS: Brain concussion; general practitioners; health education; internet; social networking.

Introduction

Best practice concussion management centres on achieving physical and cognitive rest until symptoms resolve, and seeking medical clearance from a medical doctor prior to making a return to full sporting activity.¹ Although doctors are an integral part of the professional sports environment, this is not necessarily the case at a community level where many individuals playing sport do not have immediate access to, or choose not to consult, a doctor about their concussion.²⁻³ This may lead to individuals ignoring or self-managing their condition in isolation, without appropriate medical advice. A possible consequence of this is that individuals may elect to seek advice from others (such as friends, peers, or family members) or search the internet for concussion information and advice, the quality of which has been shown to be inconsistent.⁴ Recently, there has been a rapid rise in the use of the internet in the domain of health services. A report in 2011 by the Pew Research Center states that 80% of internet users have looked online for health information, and 25% of internet users have watched a health-related video online.5 Many patients now also use the internet to research their symptoms prior to seeing a doctor.6 Increasingly, social networking sites (SNSs) are being used as a portal for patients to discuss their symptoms, seek support, and search for health care advice.7 SNSs (including Facebook, Twitter and YouTube) are websites which connect individuals and allow interactive communication in lieu of static information,8 and the SNS Facebook has hundreds of healthrelated groups serving this purpose. Many of these groups are condition-specific, such as Facebook support groups for breast cancer,9 diabetes,¹⁰ and attention deficit hyperactivity disorder (ADHD).¹¹

A seminal investigation into the use of concussion-related Facebook groups showed that users were interacting with each other and sharing stories relating to their concussion. This process was described as 'interactive support' ('iSupport')12 and can be considered a digital media equivalent of traditional peer support groups. This interaction was not moderated, however, meaning there was no vetting or quality control by medical or health care professionals and thus the quality of the information exchange was not necessarily reflecting best practice. Other SNSs are also being used to share concussion information. Twitter has been shown to disseminate large amounts of concussion information to a global audience,¹³ while a preliminary evaluation of concussion-related video clips on YouTube indicated the power of this medium to convey concussion information to a wide audience.14

The growth in the use of SNSs is having an influence on the traditional doctor-patient relationship, which has been affected in recent years by patients retrieving information online. In a recent Dutch study, the majority of doctors reported having experience of patients presenting online information to them during a consultation.¹⁵ Doctors have shown mixed attitudes towards patients using such sources. Positive attitudes towards pa-

WHAT GAP THIS FILLS

What we already know: Social networking sites are widely used by many for communicating with their peers. Increasingly, sites such as Facebook are being used for health-related purposes. Concussion is often not reported to a medical practitioner, leading individuals to seek information and support from other sources (including from Facebook).

What this study adds: General practitioners in this study showed consistently positive attitudes to the use of Facebook as an adjunct to traditional concussion management, and felt it was an appropriate medium to assist individuals recovering from a concussion. Concerns were raised relating to individuals using Facebook and not getting adequate cognitive rest after concussion, and about the quality of concussion information being shared on Facebook.

tients using online information have been shown by primary care physicians,¹⁶ and some physicians have also stated that patients using online health information does not detract from the doctor-patient dynamic.¹⁷ However, certain doctors have reported feelings of discomfort when patients present online information to them at consultations,¹⁶ and feel that internet-informed patients are a challenge to their medical expertise.¹⁸

As innovative interventions are developed,¹⁹ it is important to canvas the attitudes of key stakeholder groups to establish the feasibility of new ideas and to highlight areas of concern. At present there has been no investigation of the views of general practitioners (GPs) relating to the use of SNSs in the field of concussion. The aim of this study was to explore the opinions of GPs towards SNSs, in particular Facebook, being used for concussion management. This is a preliminary step in the subsequent development of a Facebook concussion management intervention.

Methods

The study used semi-structured interviews to survey the opinions of GPs regarding the use of SNSs for concussion management, and analysed the findings using interpretative description methodology.²⁰ Ethical approval for the study was granted by the University of Otago Human Ethics Committee. GPs whose caseload included persons with a concussion between the ages of 16 and 30 years and who had treated a patient with

Participant ID	Clinical experience (years)	Number of concussion events seen in past 12 months	Member of a social network
PO1	16	10 to 15	No
PO2	25	2	Facebook
PO3	35	6	No
PO4	35	30	Facebook
PO5	24	6	Facebook
PO6	3	1	Facebook
PO7	25	10	No
PO8	20	6	No

Table 1. Participant background information

concussion in the past 12 months were eligible for inclusion in the study.

GPs were recruited into the study via a purposive recruiting strategy. Doctors known to the research team identified potential participants (GPs) who met the inclusion criteria. These potential participants were contacted by phone by the principal investigator (PI) to gauge their interest in participating in the study. Once the inclusion criteria had been verified, interested participants were invited to participate and sent a study information sheet to be read prior to their attendance at the interview.

Interviews were conducted in Dunedin, New Zealand, in April and May 2011 at each GP's practice, with informed consent given prior to commencing the interview. Before the interview began, participants completed a brief questionnaire providing background information about their clinical experience, number of concussion events treated, and their use of SNSs. Twelve pre-prepared questions were clustered into four domains to generate a framework for the semistructured interviews:

- 1. **Information:** the content of concussion information given to patients.
- 2. **Delivery:** the mode of delivery of concussion information given to patients.
- 3. **Concerns and recommendations:** potential issues in using SNSs for concussion management.
- 4. **General discussion:** inviting participants to raise any other points not already covered.

The questions were constructed to cover a range of issues within each area of the interview. Prompts were prepared for each question in advance in order to elicit further information where necessary. All interviews were recorded using a digital voice recorder, transcribed verbatim by the PI, and the series of interviews was continued until there was saturation of information,²¹ that is, until no new themes emerged from the interviews.

The principal stage of data analysis was the multiple reading of the transcripts by the PI (OA) and then a preliminary analysis to provisionally attribute themes to the text in each transcript. This process involved identifying commonalities between each transcript, and then grouping similar concepts together in order to identify common themes under which quotes/dialogue could be classified. Following this stage, annotated transcript copies were reviewed by two other members of the research team (SS and AS), along with unmarked copies of the original transcripts to confirm theme allocation. The final stage of analysis was the verification of themes by an independent GP (SM) not involved in the interview component of the study, to ensure that the themes identified were representative of those that could be expected from this stakeholder group. Anonymous supporting quotes were extracted from the data to reinforce key themes.

Findings

A total of eight GPs with between 3 and 35 years of clinical experience were interviewed (Table 1).

Collectively they had seen a total of 76 concussion events in the previous 12 months, and all of the GPs regularly saw sporting injuries as part of their caseload. Half (n=4) of the GPs interviewed had personal Facebook accounts, with all of the GPs having a working knowledge of Facebook. Seven key themes emerged from the data:

- 1. Management of concussion
- 2. SNSs
- 3. Use of technology for health
- 4. Use of Facebook for concussion
- 5. Moderation
- 6. Privacy, and
- 7. Risks and dangers.

These themes are presented in Table 2, along with examples of supporting quotes (verbatim).

All of the GPs stated that Facebook was an appropriate medium to facilitate health care management, and that they would support the use of Facebook as an adjunct to traditional faceto-face concussion management consultations. The support for this approach was not unconditional, however, and a number of points were raised. The privacy of those using Facebook was highlighted as an important issue, as reflected by the quote:

I would have concerns about how we would manage... privacy and clinical governance issues. (P08)

In addition, the role of moderation was mentioned by several GPs in this study, with one stating:

...as long as... it's moderated, I think that's the important thing. (P07)

It was suggested that this moderation needs to be frequent, accurate, and from a source that the users can trust, and this was demonstrated by the following quotes:

Information needs to be checked so that it's at a good standard before it gets put on Facebook. (PO1)

People can share their ignorance and spread wrong information, but this... could be addressed by having someone who corrects these responses. (P02)

Discussion

The views of the GPs interviewed towards concussion management were in keeping with the best practice recommendations from the international consensus statement on concussion in sport.¹ Key issues, such as the importance of cognitive rest and seeking re-review if symptoms deteriorated, were highlighted by the GPs. Consistently positive views towards the use of Facebook in concussion management were displayed, and all of the GPs stated that they felt Facebook was an appropriate medium to use to facilitate concussion management.

GPs and other health care practitioners need to consider how their practice might be affected and influenced by social media, and how best to manage this evolution of care.

The popularity and widespread use of Facebook was stated by the GPs as being a positive aspect of using it for concussion management, and it was suggested that younger individuals would be particularly likely to engage with this platform. The interactive component of Facebook was highlighted as being especially useful, and several of the GPs said that they believed the use of social media for health information dissemination will grow significantly in the near future; a point previously made by others.²² GPs and other health care practitioners need to consider how their practice might be affected and influenced by social media, and how best to manage this evolution of care.

One of the concerns highlighted in the interviews was that patients would not be resting cognitively if they were on Facebook for extended periods of time. Best practice concussion management supports cognitive rest in the early stages following a concussion,¹ and thus an intervention operated through an SNS could potentially impede recovery. However, in the real world

Table 2. Use of social networking sites in concussion management: emergent themes with examples of quotes from interviews

Theme	Example of supporting quotes		
	'It's important to explain to patients what concussion is, to be respectful of it and when to seek review' (P01)		
	'Rest is important often young people don't want to stop sport' (P04)		
1. Management of concussion	'It's good to have something to give to patients as their memory may not be good' (P06)		
	'The concussion information sheets we give to patients are not necessarily the best format for delivery' (PO3)		
	'Facebook is definitely appropriate to help manage concussion whereas Twitter wouldn't get enough information across' (P01)		
2. Control motors which a site of	'Facebook is trying to evolve and become more universal and would seem appropriate for health' (P01)		
2. Social networking sites	'Facebook is just another way of using the internet to get information so I wouldn't have any problems with it' (P05)		
	'Young people would probably engage with each other on Facebook about their concussions and they may engage with health care professionals too' (P05)		
	'Patients tend to use the internet and Google for everything' (P04)		
2 Use of technology for	'We've found text messaging a great help with younger people for appointments' (P08)		
health (eHealth)	'Social networks can play a role in health I imagine it is going to get massive' (P07)		
	'I would say 50% of patients have [searched for health information online], particularly if they've got something that they've not immediately got a handle on what it is' (P08)		
	'I think the interactive side [of using Facebook for concussion management] would be likely to be very helpful' (PO3)		
4 Use of Eacebook for	'Facebook could be used to reiterate some very core messages [about concussion]' (P05)		
concussion	' sometimes issues are better assessed face-to-face with patients. So I just don't think Facebook is a replacement for face-to-face contact with clinicians. Particularly when there's comorbidities there' (P08)		
	'Facebook is another way of using the internet to get information [about concussion]' (P05)		
	' sometimes [individuals] are a bit undirected. They're not quite sure on how to interpret what they are looking at [on the internet]' (PO3)		
5. Moderation	'It's possible that somebody might be falsely reassured [by other Facebook members] when they are actually of getting worse' (P07)		
	' in a moderated group I dare say it could work quite well' (P07)		
	' if the group is not well moderated, then they could get poor information' (P06)		
	' people may inadvertently reveal more than they intend to about their medical condition, which they might be happy about at the moment but in the future might come back to bite them' (P06)		
6 Privacy	' confidentiality is the thing, it seems to be a wide open webwhen you talk to people on that, huge numbers of people can tap into it. That would be my only concern' (P03)		
	'People get into strife on the net as it is with putting information on there, and that could potentially be a problem for people with jobs I would think down the track' (P02)		
	' you need to be careful with privacy settings, and that information that they may think they are keeping private, once it is out there on Facebook it is out there forever' (P05)		
	' you can't delete it off when you've said something silly with head injuries insight is not always good, the anger expressed isn't good, and so, because it's there written, for other people to see' (P04)		
	' concentration time is no good if you've got a really bad one [concussion]' (P04)		
7. Risks and dangers	' you don't want them [young persons] sitting on the computer for eight hours a day when they are supposed to be resting, but they will go look at their Facebook account anyway. Most of them have them open all day or several times a day' (P05)		
	' people sharing their ignorance and disseminating kind of wrong information and yeah, you've got kind of no control over that' (P02)		

it is unrealistic to expect patients to have total cognitive rest,^{23,24} and provided individuals were guided to use an online intervention sensibly, the benefits of receiving accurate medical information and advice could outweigh any potential risks. Another concern raised was that individuals with a concussion may be emotionally labile, and may type something online which they may later regret.

While the openness of Facebook may attract users to engage on the site for social and recreational reasons, managing this openness and attempting to maintain patient confidentiality when discussing sensitive information is an important challenge to overcome. GPs and individuals with concussion would be more likely to commit to this mode of health care if all parties could be satisfied with regards to the privacy of information that they disclose. In addition, appropriate and high quality moderation (the vetting of information through this service by a health care professional) is essential to assist users to contextualise information and to provide appropriate responses to inaccurate postings.²⁵

The field of social media and health (termed 'Medicine 2.0'26) is in its infancy, but the literature base is starting to permeate with possibilities for its application.^{27,28} Facebook has a relatively untapped potential in the field of health, and sports medicine organisations are beginning to utilise social media as a means by which they can communicate best practice information in a user-friendly manner to their consumers and the general public.²⁹ The high incidence of sports concussion in the younger population, allied with the familiarity of 'Generation Y' with evolving media technologies, suggests that SNSs could be an ideal medium through which to facilitate the management of a sports concussion at a community-based level.

This is the first exploration of the opinions of health care providers towards the use of social media in topics relating to the field of sports medicine. Although the sample of eight participants might be considered small, the recruitment was terminated as no new information/opinions were emerging (i.e. saturation of information was reached). The data should be considered as an ac-

curate representation of the opinions of the local medical community, and other groups in different cities or countries may have different views. As in any qualitative study, there is the potential for bias in the coding and interpretation of the information provided. This study employed a multi-stage analysis of the transcripts from the interview, using a panel of researchers which minimised any potential bias. Further investigation into the opinions that GPs and other health professionals have towards the application of social media to the management of health conditions in the domain of sports medicine should be conducted, in order to gauge the wider role that SNSs such as Facebook could play in the management of these conditions.

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COMPETING INTERESTS None declared.