

Patient-initiated camera phone images in general practice:

a qualitative study of illustrated narratives

Abstract

Background

Camera phones have become ubiquitous in the digital age. Patients are beginning to bring images recorded on their mobile phones to share with their GP during medical consultations.

Aim

To explore GP perceptions about the effect of patient-initiated camera phone images on the consultation.

Design and setting

An interview study of GPs based in rural and urban locations in Australia.

Methods

Semi-structured telephone interviews with nine GPs about their experiences with patient-initiated camera phone images.

Results

GPs described how patient-initiated camera phone photos and videos contributed to the diagnostic process, management and continuity of care. These images gave GPs in the study additional insight into the patient's world. Potential harm resulting from inappropriate use of camera phones by patients was also identified.

Conclusion

Patient-initiated camera phone images can empower patients by illustrating their narratives, thus contributing to improved communication in general practice. Potential harm could result from inappropriate use of these images. GPs shown images on patients' camera phones should make the most of this opportunity for improved understanding of the patient's world. There are however, potential medicolegal implications such as informed consent, protection of patient and doctor privacy, and the risk of misdiagnosis.

Key words

cellular phone; communication; general practice; photography; self care.

INTRODUCTION

An estimated 92% of Australians over the age of 18 own a mobile phone, rising to 99% for those in the 18–24-year-old age group.¹ Around 85% of mobile phones sold in 2013 were camera phones,² and it is likely that the rapid uptake of mobile phones with cameras is a worldwide phenomenon. Doctors have embraced the clinical use of camera phones, however reports of patient-initiated camera phone images are less frequent than doctor-initiated images. Images taken by patients on their camera phone have been used to diagnose inguinal hernia,³ Peyronie's disease,⁴ and drug eruptions.⁵ Videos taken on camera phones has been useful for diagnosing epilepsy⁶ and 'funny turns' in older people.⁷ Illustrative photos shown to one of the authors by his patients are shown in Figures 1–3.

Literature from media studies and sociology add insight into how camera phones are used. Such images make visible what is meant to be kept hidden, blurring the personal and the public,⁸ and making private spaces more transparent.⁹ Images taken and stored on camera phones are used for constructing memory, social relationships and self-expression.¹⁰ Camera phone images are used for archiving (for example, taking photos of notes on a whiteboard) and for authoring one's own life story.¹¹

Photos placed next to the bedside in hospital can express the personhood and individuality of critically-ill patients.¹² They function as triggers for conversation and

an enriched relationship with the patient in hospital, and should be acknowledged as such by hospital staff.¹³ In the predigital age, photo-ethnographers such as Sarah Pink¹⁴ describe how *'informant's photographs took researchers into spaces it was difficult for them to enter physically themselves'*.

Caveats exist about the use of photography in clinical medicine, particularly to protect patient confidentiality, privacy and dignity.¹⁵ Staff have been disciplined for taking unauthorised pictures of a shark attack victim with their camera phones.¹⁶ Conversely medical personnel also report the need for guidelines regarding the use of camera phones by patients or visitors. Images captured of professionals at work could be uploaded or viewed inappropriately, affecting doctors' privacy.¹⁷ Health institution policy needs updating in the smartphone era.¹⁸

Apart from their utility in arriving at a diagnosis, little is known about the interactional aspects of camera phone use in healthcare.

This study focused on asking GPs about their experiences with patient-initiated camera phone images within the consultation, and their perceptions on how these images affect communication between doctor and patient.

METHOD

Recruitment and sampling

Study participants were recruited by inviting attendees at the national annual scientific

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How this fits in

Camera phone photography has become ubiquitous and accessible to patients of all ages and backgrounds. Patients are beginning to initiate the sharing of images taken on their phones with their GPs during consultations. This study found that images not only aid in diagnosis and management, but also contribute to understanding the broader context of the patients' health and wellbeing. GPs should be aware of potential harm that could arise from inappropriate use of camera phone technology.

conference for the Royal Australian College of General Practitioners in October 2012. Following initial interviews, further study participants were recruited by snowball sampling until no new themes emerged during the interviews. Participants were provided with an information leaflet and consent form.

Data collection

Consenting GPs participated in a 30 minute semi-structured telephone interview that sought to explore their experience and perceptions of patient-initiated camera phone images. They were asked to describe consultations where this had occurred, types of images shown, the significance of the image for the patient, how the image affected the consultation, what the GP would usually do with the image, and what actual or potential harm could ensue from the sharing of camera phone images. Interviews took place between November 2012 and January 2013.

Analysis

Interviews were recorded, transcribed, and themes identified inductively. Transcriptions were independently reviewed, and coded for emerging themes. Preliminary analyses were reviewed and common themes documented after iterative discussion and agreement between the reviewers.

RESULTS

Nine GPs participated in this study. Four were female. They were aged between 30 and 70 years and worked in three different states of Australia, practising in urban, semi-rural and rural environments. Their clinical interests included adolescent health, palliative care, workers' compensation, indigenous health, and chronic and complex care.

Types of images shown to GPs

GPs described two types of images that were

shown to them: 'clinical' images that were relevant to the patients' medical condition, and 'social' images that gave insight into other areas of the patients' lives.

Almost all the GPs had been shown clinical images of skin lesions including rashes, moles and ulcers. One GP described being shown serial images of a healing finger infection, and another of an infant's testis having descended after being impalpable previously. GPs also described being shown photos of objects such as mites, a damaged car following a motor vehicle accident, and a glass with a chip missing from its rim, where the patient thought their painful throat may have resulted from swallowing the chip. Patients also brought in videos recorded on phones — a recording of an infant 'snortling', that was diagnosed as normal infant breathing (GP6), and another of a child with 'funny facial expressions' (GP7), who was referred and subsequently found to have infantile epilepsy.

Social images included photos of the sister's new baby, the cat, family snapshots; or more significant life events such as an engagement, weddings, and a holiday cruise. Some GPs regarded them as part of normal conversational discourse and as:

'Social chitchat that goes along with a consultation.' (GP7)

Other GPs mentioned photos that gave them poignant insight into the patient's inner world. A photograph of a holiday resort struck by a hurricane expressed sadness about what had happened (GP9). A photograph of a patient dying at home seemed to GP1 that the relatives wanted to show how well they were caring for him. The GP thought that it was a sign of courtesy that although the family had requested a prescription for the patient, the image was a way of informing him that it was not necessary to visit the home. GP9 described a photo of a garden that a patient had been landscaping; the patient was quite disabled, and the GP felt the patient was using the photo to say that he was active and:

'Not sitting at home doing nothing.' (GP9)

In these examples, the images added a more nuanced understanding to the consultation narrative.

Significance of images

GPs unanimously felt that being shown personal images was important:

'Eight out of ten. The patient felt it was very significant.' (GP1)

Figure 1. 'Doc, could you have a look at my daughter's rash?'



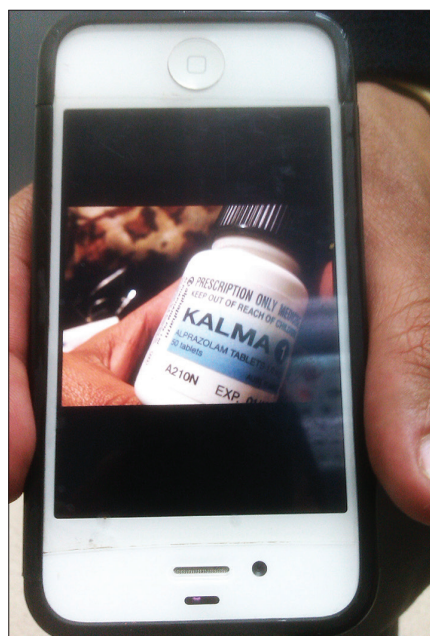
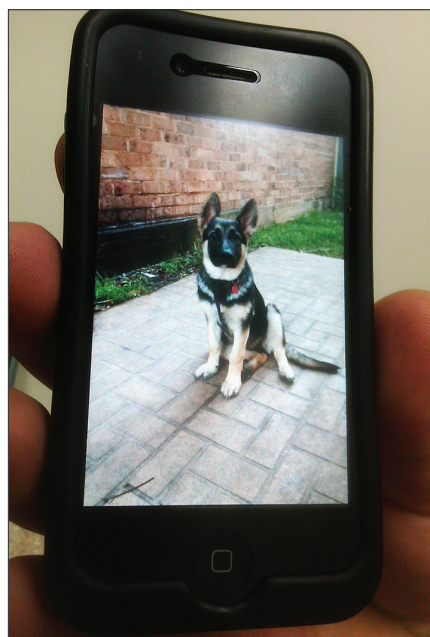


Figure 2. 'This is what the other doctor gave me. What do you think?'

Figure 3. 'We're doing OK now after the miscarriage ... did I tell you we got a dog?'



'Er, it's a key feature. In most occasions it's been helpful.' (GP5)

Three GPs mentioned that the images empowered the patient as it enabled them to:

'Retain control' (GP2)

The patient became 'more part of the team' (GP4) and:

'Happy they are participating in the diagnosis.' (GP9)

When shown camera phone images, GPs felt it was crucial to acknowledge them:

'... you must look at it because they bother to take a photo you can't say "Oh don't worry" and "don't look at it, that would be terrible".' (GP9)

Several GPs mentioned instructing patients how to use their camera phones. This was seen as a valuable way of educating patients and involving them in self-care:

'And so I've suggested she take a photograph using her own smartphone when things are not good on her skin so that she can show the dermatologist a series of photographs as to the nature of the lesion.' (GP5)

Effect on the consultation

Clinical images were mostly viewed as useful and:

'Helpful for the diagnostic process.' (GP2)

They also helped the GP appreciate the impact of the condition:

'I find it extremely useful to establish the initial injury or extent of the problem.' (GP8)

Other GPs commented that some images were of poor quality and they would have reached the same diagnosis without them.

Serial photos of diabetic foot ulcers were a 'pictorial history' the patient would show to the GP and other health personnel (GP2). Similarly, pictures of a healing finger infection provided continuity at the same rural clinic:

'Yeah, when you're going to different practitioners it's quite handy to say "Well, it actually did look like this, and now it looks like that".' (GP4)

Social images were also seen to have an effect on the consultation by demonstrating trust and developing rapport. One GP felt

patients show their GPs images when the patient is:

'In a trusting place where they feel they're going to be taken seriously.' (GP7)

Accordingly, the image was part of the patient narrative:

'The patient has a tale to tell and ... you have a duty to pay attention to the tale.' (GP9)

'If someone's gone to the trouble of making a pictorial record to show the doctor I think that's something that I would wish to thank them for. Even if it wasn't that helpful in the end, at least they have tried. And to me it does assist in improving rapport.' (GP5)

Furthermore, GPs mentioned that the images helped them appreciate the patients' world:

'It gives you a different perspective; you can be part of their lives.' (GP8)

The images *'added an extra dimension to the whole thing.'* (GP6)

Medicolegal aspects

The GPs were all aware of the need for confidentiality and protecting patient privacy:

'It can be unpredictable what happens to that information and what use it can be put to.' (GP7)

GP5 instructed patients on how to take pictures with their camera phones, but was insistent that the patient kept the image on their phone to retain ownership. Most of the GPs would document they had been shown a camera phone photo, but none of the GPs had attempted to copy the image onto their clinical software. Several GPs expressed interest in doing so if the patient provided consent, and if they knew how to do so technically.

GP3 said patients have *'no concerns about images'*. She had to ask one patient to bring in photos on their phone rather than emailing her pictures of their children's genitalia, and felt she had to tell them to delete the images they had shown her.

GPs were also aware of the possibility of images being manipulated, and wary of the risk of misdiagnosis based on camera phone images. GP6 felt the video she was shown of a child's noisy breathing was helpful to ensure it was normal, yet when she discussed the case with a colleague, he countered that he wouldn't wish to give false reassurance

based on a camera phone recording.

One issue mentioned by GPs was the possibility of patients using camera phones to inappropriately photograph or record images within the consulting room. GP7 had been asked by a female adolescent whether her genital examination could be recorded on a camera phone by a friend. GP7 has 'a ban on that happening in the consulting room'. GP2 felt quite upset when he discovered he was being recorded on a camera phone while draining an abscess as he had not been asked permission beforehand.

Another GP, in contrast, was comfortable with procedures being videorecorded on the smartphone. He wanted to be transparent and allowed a patient's mother to record him suturing a buttock laceration:

'A funny story, this chap, he went through all that, then he went to look at it and said "Mum, you forgot to press record!" [Laughs]. (GP8)

DISCUSSION

Summary

Patients share images recorded on their camera phones within a GP consultation as an additional means of communication with their doctor. Images can empower patients, allow them to participate in the diagnostic and management process, and improve continuity of care. GPs find some images useful in establishing the diagnosis and understanding the context of the illness (Figures 1 and 2). In addition, sharing camera phone images contributes to rapport within a doctor-patient relationship. Reflecting on camera phone images may give the doctor further insight into the patient's world, helping them to appreciate attitudes and feelings that may not have been verbalised (Figure 3). Camera phone images also have the potential to cause harm to patient and doctor when used inappropriately.

Strengths and limitations

To the study's knowledge, this is the first study to explore GPs' views on the emerging phenomenon of patient-initiated use of camera phone images within a medical consultation. The range of GPs interviewed was diverse in terms of special interests, age group, and location of practice within an Australian context. Although it was a 'first-look' at an emerging phenomenon, the study found similar themes being repeated within the small group of GPs. This may be because patient sharing of digital images is still new and infrequent, and not many GPs have had the opportunity to reflect upon it. Future research with a larger group of GPs, perhaps using a focus group methodology

may yield more insight into this practice. Research from a patients' perspective, or observing patient-doctor interaction while camera phone images are being shown will also extend understanding of this growing method of communication.

Comparison with existing literature

Findings from this study confirm the use of camera phone images by patients to document their illnesses, pictorially communicating to the GP a clinical sign or event that occurred outside the current consultation time or location.³⁻⁷ Camera phone technology enables the user to invite remote people into their experience.¹⁹

GPs reflecting on images shown to them by patients confirm observations from social studies literature, describing how images can enhance the patient-doctor discourse and add to the patient narrative by making visible the invisible,⁸ developing rapport and constructing dialogue,¹⁰ and expressing personhood.¹² In a medical context, images can contribute to patient-centred care by enhancing communication, self-care, and patient autonomy.

GPs also describe actual or potential harm resulting from inappropriate use of camera phone images. Articles about doctor-initiated clinical photography^{15,18} address concerns that may also be relevant to patient-initiated camera phone images. These include ownership of the image, obtaining informed consent if the image were to be copied and stored, measures to prevent unauthorised dissemination, and bans on unauthorised photography or videorecording in the clinical setting.

Implications for practice

Although limited in its scope, this study provides glimpses into how camera phone images are used by patients to illustrate their spoken narrative. In an increasingly visual environment, Sergey Brin, cofounder of Google, has suggested a trend in mobile communication to use 'mms' (pictures) rather than 'sms' (words).²⁰ Although images may be deemed to be clinical or social, these distinctions frequently overlap. By reflecting on the camera phone images they are shown, GPs may be able to look beyond a biomedical framing in order to reach a deeper understanding of the interaction between social function and health for that patient. To avoid potential harm, guidelines on the use of mobile phone technology should be developed, addressing medicolegal concerns such as documentation, consent, protection of patient and doctor privacy, data security, copyright, and the possibility of misdiagnosis.

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Ethical approval

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Provenance

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Competing interest

The authors have declared no competing interests.

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