Opportunities and challenges of using social media communication in patient care and counselling in family practice: a scoping review and ethical analysis.

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Research article

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Abstract

Background Healthcare professionals frequently use social media in interacting with colleagues or patients. The aim of this review is to provide a conceptual analysis of ethical issues related to utilization of social media in patient care and health professional training. Methods Using a scoping review, electronic databases (PubMed, HINARI, Google Scholar and ERIC) were searched for publications on use of social media (especially Facebook and WhatsApp) during patient care. Challenges and opportunities faced by users (patients, educators and healthcare professionals) were analyzed. Results Communication between patients and healthcare professionals using WhatsApp and Facebook can improve patient care through improving patients' understanding of and coping with their illness in family practice. It may also improve the learning environment, increase learning opportunities, complement the teaching/learning process, and enhance professional networking and performance. This presents potential risks and burdens to all related to the technology, user behaviors and nature of interactions. The ethical challenges affect data quality, security and effectiveness of the media. Conclusion Users of WhatsApp and Facebook for communication of educational or patient care-related matters should recognize ethical challenges related to using these media platforms in family practice. User preferences for exchange of medical care-related information or educational material should be sought and respected.

Background

Social media tools include Facebook, Instagram, WhatsApp, Twitter, LinkedIn, and video-hosting sites like YouTube [1-4]. Healthcare professionals and medical students frequently make use of social media in communicating, learning or interacting with colleagues or patients [2, 5,6]. Since these platforms provide tools where users exchange conversation, comment, deliberate, critique, contribute, share, create, modify and evaluate contents online, their potential uses are enormous [2-7]. They present a personal learning environment for students [2,3,8,9], a forum for communication between patients and healthcare professionals [10,11], and a medium for communication between healthcare professionals [12,13]. While offering great potential to improve patient care, the use presents potential risks to patients and health workers that relate to the technology and the users, include distribution of poor-quality information [13-19]. The aim of this review is to provide a conceptual analysis of ethical issues related to utilization of social media and media applications in improving healthcare patient care.

Methods

Using a scoping review design informed by Arksey & O'Malley [20], relevant electronic databases (PubMed, HINARI, Google Scholar and ERIC (up to October, 2018) were searched for publications on use of social media digital platforms in general and WhatsApp in particular for challenges and opportunities faced by the users as a community of practice, who use then to communicate patient-related information. Search terms used included Social media, digital platforms, Facebook and WhatsApp. Both peer-reviewed and non-peer reviewed published articles, published in English were selected. During analysis, ethics-related considerations related to benefits, risks and burdens were identified, analyzed using the

framework for Communities of Practice [22,23], Bandura's Social Cognitive Theory [24,25], and Jonas' theory of responsibility [21]. The data were grouped into themes and sub-themes following an inductive qualitative approach [20], with the ethics domains constituting the themes and the specific challenges constituting the sub-themes.

Theoretical framework: Jonas' theory of responsibility

Jonas [21] developed a theory of ethics applicable to the technological age. Modern technology has potential to generate new threats which are inseparably linked with the technology [21]. Agents are accountable irrespective of the intentions of the action, and accountability may be at individual or collective level [21], and as an *imperative of responsibility*, humans as rational agents ought to minimize risks and burdens imposed by technology [21].

Results

Social media (such as WhatsApp and Facebook) presents an effective learning and teaching environment, as they can be adapted to the internet [26-28], offering invaluable opportunities for patient education and counselling [2, 29] as well as for social, participatory and collaborative learning [31-34]. While social may create ethical issues related to loss of autonomy, inequitable access, risks such as loss of data security, or unfair distribution of risks and benefits, classifiable into four categories: Beneficence (maximizing benefit and minimizing harms), Autonomy (respect for individuals and communities of users) and justice (treating people equally and fairly. Whats App and Facebook communication have potential to improve patient-physician interactions, enhance patient motivation, improve patient awareness about illness, provide accurate information, issues, facilitate the exchange of ideas,

frame and reframe health-related questions, and ultimately improve patient outcomes across health systems. Table 1 shows the analysis of ethical issues during information exchange and interaction. These are related to integration of two opposed fields: medicine with values of privacy, confidentiality, interpersonal and one-to-one interactions and the field of social media, with a culture of sharing, openness, transparency and informality [35, 36]. This raises concerns over regulations of user interaction and file sharing [37,38].

Discussion

Jonas [21] made assumptions that dealings with the non-human world are ethically neutral, the entity (man) and his condition is constant in essence and cannot itself be object of "reshaping *techne*. Jonas' theory is a reformulation of Kant's categorical imperative, which Myskja [39] presents as: "*Act so that the effects of your action are compatible with the permanence of genuine human life*", and therefore, agents ought to ensure that the effects of their actions do not destroy the future "*genuine human life*". Therefore, to ensure "*genuine human life*", agents ought to protect the future humanity's autonomy, dignity, integrity

and risk from vulnerability. Jonas theory [21] highlights three key components of “*substantive responsibility*”, namely, “*totality, continuity and the future*”.

Individual and collective agency

The Social Cognitive Theory (SCT) posits that learnt behavior occurs in a social context, with a dynamic and reciprocal interaction between the individual and their environment to enact a given behavior [24,25]. SCT adopts an agent perspective in which individual efficacy motivates individuals as producers of experiences and shapers of events.

Ethical issues related to use of social media as platforms for information exchange

The information communicated or shared on digital platforms may lead to loss of privacy as it may be visible to others [40], and may include words, photos and videos [2]. The data, however, may include patient-identifying information, such as likeness, reports discussed on ward rounds, or data shared with others in seeking opinions and consultations for patient care-related services [32,41].

Such use markedly improves the patients’ understanding of their illnesses and offers opportunity and forum to provide expert opinions and interpretations to broader patient populations [41,42].

Ethical issues may be related to justice. These digital platforms are cheaper compared to other modes of communication such as telephone, making it more possible for users to communicate [32], often with many users in a short time, such as in an emergency [32]. Users who share private or confidential thoughts risk causing harms through revealing confidential patient information, as postings have potential to portray unprofessional behaviors [43]. The potential harms include violation of patient/client privacy or posting of confidential information [43], which may lead to dismissal or censorship [44,45].

Ethical issues related to the technology itself

Facebook and WhatsApp have interconnections that allow individuals to connect with each other digitally and have the freedom to create their identities within this system [46]. On Facebook and WhatsApp, one can have multiple identities. This may influence a user’s behaviour, whereby a user can create a false identity and use this to send false messages. Anonymity could enable users to send anonymous messages in case of a problem that needs concealment of identity, for example, when they want to act as whistle-blowers [47-49]. Ethical issues may be related to transmission of photos and pictures that could be uploaded and shared with other users of other platforms such as Instagram, Facebook or Twitter [4], where data (photos) may be edited to obscure reality. Inability to always transmit anonymized information raises ethical concerns. There are additional challenges of data storage, data security and data safety, which further adds to risk of loss of privacy and confidentiality. When a message is sent from a device via instant messaging, the data contained is transmitted via commercial servers on the Internet, from where it is retrieved by the message recipient [14]. The unpredictable risk from hackers or other intrusive malware creates concern over security of confidential patient information. Harms may arise out of over-use. While increasing connectedness [50], fuse may disrupt critical activities such as lectures or

patient care [51, 52]. Addiction manifests as over dependency. Spread of negative information (cyber-bullying) may also occur [53]. Another ethical concern is need for local, institutional and national guidelines on which data may be shared and what media should be used, depending on sensitivity and security concerns related to the data [34]. Misuse of social media potentially damages the reputation of both individuals and the institutions they represent [54].

Conclusion

Communication between patients and health workers using WhatsApp and Facebook can enhance patient care through improving patients' understanding of and coping with their illness. Health workers have for long used social media to benefit patients and enhance professional Networks. However, use of social media presents potential risks and burdens to all users (patients, healthcare professionals, educators and trainees) leading to ethical challenges related to the technology, user behaviors and nature of the user interactions on the social media.

Abbreviations

CoP Community of practice

ICT Information and Communications Technology

SCT Social Cognitive Theory

Declarations

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Authors' contributions

DKK conceived the idea, conducted the background reading and literature search, reviewed the literature and drafted the manuscript.

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Table

Table 1: Ethical issues related to use of social media for educational and patient care-related purposes.

Characteristic related to use of social media	Ethical challenges	Possible principle affected or violated
Widely used media Media acceptable to some users Provider performance and student learning enhanced	Not all potential users know how to use Issue of access to smart phones, internet or data Not all users know how to effectively communicate on the media	Autonomy Beneficence Distributive and procedural justice
Data security	Data security in case of lost or damaged hardware or software Data safety and Confidentiality Privacy Data stored may be lost or modified Data theft or damage by hackers	Beneficence if data is lost (Non-maleficence if data is lost or misused) Autonomy in being in control of one's destiny
Use of shortcuts in texts and emoticons. Use of slang Use of acronyms, abbreviations and wrong cases	Faults in data transmission or incorrect data transmitted Data may be misunderstood or misinterpreted by recipients Data privacy and confidentiality for intended recipients	Beneficence to in Non-maleficence Distributive and procedural justice Autonomy
Multiple hidden user profiles	Loss of trust in face-less communications Loss of personal interaction Loss of proximity Loss of co-presence Ability to communicate anonymously as whistle blowers	Beneficence Non-maleficence Distributive and procedural justice Autonomy and informed consent
Regulations or guidelines on using the social media	Abuse such as cyberbullying Loss of confidentiality Loss of privacy Distraction of users with useless information; Issue of quality Inability to regulate user behaviors	Beneficence Non-maleficence Autonomy and informed consent Distributive justice
Software or hardware or Internet connectivity	Disparity in access Inequitable resource allocation Need for updates	Beneficence Procedural and Distributive Justice (from resource allocation, cost and access)
Stakeholders preferences and needs	Stakeholders preferences not sought or respected regarding whether, how, when and which data to transmit	Autonomy and informed consent Distributive and procedural justice Beneficence
Effectiveness as educational tools	Effective as educational tools for individual or group feedback Media may be suitable for learning styles of some students Offer collaborative and social learning Anonymous data sources Typed errors and unknown slangs or shortcuts and emoticons Users identifiable if user name is known Messages displayed in the order in which they are posted. Loss of trust, co-presence and proximity Impersonal communication	Beneficence Distributive and procedural justice Autonomy and informed consent for some users
User ser behaviors	Dependence and Addiction	Non-maleficence