The benefits of computer-mediated communication in nursing research

ABSTRACT

Use of the Internet, and the opportunity to utilise computer-mediated communication (CMC) provides new alternatives for nurse researchers to collect data. The use of CMC for research purposes is advantageous for both researchers and participants. Through this mode of communication, recruitment of participants can be enhanced through reaching individuals who are geographically distant, and nurses have the opportunity to provide participants with true anonymity, which may be beneficial when exploring sensitive issues. This paper explores the existing literature and draws on healthcare studies that have used CMC as a data collection tool.

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BACKGROUND

Online communication has become one of the most popular modes of communication throughout the world. Between the years 2000–2007, the proportion of people who used the Internet increased by 244.7%, with current estimates indicating that over 1.2 billion people use the Internet worldwide (Internet World Statistics 2007). The opportunities afforded by the Internet for people to communicate without the limitations and constraints of time and distance, has made this mode of communication an attractive medium, with interpersonal communication being one of its most important uses (Cummings, Butler & Kraut 2002). The ongoing advances and availability of computers, associated software, and the Internet, offers researchers new opportunities in the way they collect data (Brownlow & O’Dell 2002).

Computer mediated communication (CMC) refers to typed conversational style interaction that occurs between individuals and is mediated through a computer (Mann & Stewart 2002). The two types of CMC are asynchronous, which sends data via electronic mail (email) for example, and is not subject to time, and synchronous CMC, which allows for concurrent or ‘real time’, interaction between individuals using different computers at different locations. Software and programs that offer instant messaging and discussion groups are examples of synchronous CMC (Mann & Stewart 2002). Increasingly, CMC is being seen as having value for research purposes (Mann & Stewart 2002), including recruitment, and data collection for both quantitative and qualitative research studies (Curasi 2001).

This paper focuses on the use of CMC as a data collection method for nursing research. The paper draws upon the existing literature that has employed and explored CMC for data collection to identify the benefits as well as some of the disadvantages associated with this method. Additionally, the ethical issues associated with this data collection method are elucidated, and the researcher and participant relationships that can be developed through and within this medium are discussed.

CMC BENEFITS FOR RESEARCHERS AND PARTICIPANTS

Within the research context, CMC has multiple advantages for both researchers and participants. Benefits for participants include greater flexibility about when the research interview is to occur (Reddy et al. 2006), and not having to travel to the interview location (Mann & Stewart 2002; Cantrell & Lupinacci 2007). This eliminates the need for the researcher to organise suitable interview sites, as participants can engage in the interview via a computer within their own homes (Markham 2004), which, in turn has the potential to enhance comfort for participants (Fleitas 1998; Cantrell & Lupinacci 2007). This data collection method also promotes participant autonomy as participants can simply log off from the interview at anytime, and can respond to questions via email at a suitable and convenient time. Communication via this medium also allows the researcher to review the text during the interview and develop follow-up questions (Markham 2004), and eliminates the time and cost of transcription associated with verbal interviews (Lakeman 1997; Davis et al. 2004; Beck 2005).

One of the most valuable aspects of utilising CMC for research purposes is the ability to recruit individuals and communities that are difficult to access. This includes hidden populations such as people confined to their own homes, shift workers (Mann & Stewart 2000), participants who are geographically distant and communities that are situated in isolated and remote locations (Thomas et al. 2000; Davis et al. 2004; Cantrell & Lupinacci 2007). Additionally, access to people who are in ‘closed sites’, where a researcher is unable to meet participants such as individuals in the military or in certain religious domains, can be achieved (Mann & Stewart 2000).
Several qualitative studies have successfully employed CMC as a data collection method to reach geographically distant participants. These studies had the benefit of the participants experiencing a reduced level of isolation and having the opportunity to reflect on their experiences (Fleitas 1998; Kralik, Koch & Brady 2000; Adler & Zarchin 2002; Beck 2005). Fleitas (1998) used chat rooms and email to explore the experiences of children with serious illness. The study yielded rich insights into the participant’s experiences and had the advantage of reaching children confined to their homes because of their illness. Research that utilised an online email focus group to explore women’s experiences of bed rest due to preterm labour, found the participants gained comfort and support from the group, which minimised their feelings of isolation (Adler & Zarchin 2002). Likewise, Beck (2005) used email interviews with women participants to explore their birthing stories. Beck’s research produced in-depth findings with the women expressing many benefits including feeling the online study aided in the reduction of their felt isolation and gave them a chance to reflect on their experience through writing (Beck 2005). Like Beck (2005), Kralik et al. (2000) utilised emails as a form of correspondence (in addition to postal letters) to explore women’s experiences of living with chronic illness. Findings from this study were both rich and insightful with this mode of interviewing reported as being beneficial to participants, as they did not feel pressure in answering questions immediately. Rather, the participants could take the time to consider their responses before writing them into email, which enhanced the women’s reflection and insight into their own responses (Kralik et al. 2000).

Qualitative nursing research is often focused on healthcare experiences that are personal and sensitive in nature. CMC conversations are particularly useful for research that explores sensitive issues (Peiris, Gregor & Alm 2000; Murray & Sixsmith 2002). This is because they facilitate the sense of privacy, and can provide the true anonymity that may be needed to enhance discussion of issues that are difficult to discuss in the presence of others (Peiris et al. 2000; Bachman 2003). It has been suggested that research projects that focus on sensitive issues may be subject to participant self-censorship as a result of shame and embarrassment (Ellish et al. 1996; Reddy et al. 2006). This reticence, concerning the disclosure of intimate and personal information, can potentially influence research findings (Ellish et al. 1996; Reddy et al. 2006). Participants may fear stigmatisation, shame, judgement, and being perceived as deviant particularly in face-to-face interviews. CMC has the potential to reduce these fears and perceptions through enhancing anonymity and privacy and increasing comfort, which may yield greater disclosure and more information from participants (Peiris et al. 2000; Reddy et al. 2006; Cantrell & Lupinacci 2007).

However, like all research methods, CMC is not without its disadvantages and criticisms. This method of communication may not be available for use among some communities due to lack of knowledge and access to computers and associated software (Davis et al. 2004). Moreover, researchers need to be able to effectively use the computer based software (Mann & Stewart 2000). Additional disadvantages include the inability to observe non-verbal behaviour (Davis et al. 2004), although this can be overcome with technological devices such as webcams, and CMC interviews can take much longer than face-to-face interviews as the researcher needs to give adequate time for reflection and typed responses (Markham 2004).

**RESEARCHER AND PARTICIPANT RELATIONSHIP**

Although computers can be viewed as impersonal (Newman et al. 2002) and devoid of emotions (Peiris et al. 2000), the Internet is a communication medium, which is largely used for interpersonal communication through
avenues such as emails and chat room (Cummings et al. 2002). The Internet is a source for individuals to access and gain support from others (Whitty 2002; Im & Chee 2004) and provides the opportunity for people to form emotional attachments (Mileham 2007). Through CMC, emotional connections and personal relationships are formed (for example see Parks & Floyd 1996; and Whitty & Gavin 2001) with Peris et al. (2002) finding that these on-line relationships can be perceived to be just as ‘real’ and as important as face-to-face relationships (Peris et al. 2002).

Qualitative approaches to research value the importance of the researcher/participant relationship, and the associated rapport needed to gain insight into personal experiences (Hesse-Biber & Leavy 2006). Within the research context, CMC is made personal by conveying empathy and sensitivity through use of language and awareness of appropriate communication within an online environment (Peiris et al. 2000). The use of emoticons such as a smiley face and well known and widely used chat acronyms such as LOL (laugh out loud), can demonstrate feelings, moods and emotions (Kralik et al. 2006). The researcher can establish rapport and trusting relationships through listening, responding appropriately, and being aware of tone differences in textual dialogue and breaks in the text. This may indicate misunderstanding of questions and/or reluctance to discuss certain issues, which may require offering clarification and reassurance through text (Mann & Stewart 2002). Furthermore, Walther (1992) asserts that although the researcher may not be able to observe non-verbal cues, in-depth and personal encounters are conveyed in CMC through individual’s motivations and willingness to interact and communicate online. Several studies have reported the rapport and relationships that have developed through utilising CMC as a research method (for example Kralik et al. 2000; Adler & Zarchin 2002; Im & Chee 2003).

Kralik et al. (2000) found that close and positive relationships developed between researcher and participants through utilising email correspondence over a twelve month period. Adler and Zarchin (2002) found that friendships were formed between the women participants in their internet based study. Similarly, Im and Chee (2003), who explored gender differences in pain among cancer patients through an email discussion group, found that close relationships between participants as well as between researchers and participants were formed.

ETHICAL ISSUES ASSOCIATED WITH CMC

Research that utilises CMC has the option of offering anonymity to participants. There is no need for researchers to meet participants in person. Further, participants can use email addresses and on-line pseudonyms to protect their identity. Thus, CMC may be more appealing to potential participants in comparison to face-to-face interviews when exploring sensitive issues. Fleitas (1998) found that the absence of time constraint and visibility enhanced anonymity, which facilitated free expression among participants. Likewise Kralik et al. (2000) found participant anonymity was enhanced through writing and because of the sense that participants were not able to be seen by the researcher.

Although CMC can enhance anonymity, this can pose a challenge for legal implications associated with research, such as the necessity of reporting child protection and misconduct issues. Additionally, it should also be realised that participant anonymity and the confidentiality of their associated data can be threatened. This is because the Internet is a public domain, and therefore is subject to potential hackers (Binik, Mah & Kiesler 1999). Additionally, participants’ computers can potentially be accessed by others (Kralik et al. 2006), and data generated cannot be protected when in transit and can be traced (Cotton 2003; Fox, Murray & Warm 2003). It should also be noted that some
research participants may not want to remain anonymous and in fact may choose to reveal their identity to others (Im & Chee 2003). Therefore, although research via the Internet can increase anonymity, researchers need to be aware that the use of CMC for data collection cannot entirely guarantee participants confidentiality and anonymity. However, it has been suggested that the ethical issues surrounding CMC and the potential threat to anonymity and confidentiality are the same potential threats that arise within traditional research data collection methods (Fox et al. 2003; Kralik et al. 2004).

Another potential ethical issue that can arise in qualitative research is the participant distress that may occur when relaying personal experiences. This is a pertinent issue associated with CMC as visual cues of distress that arise in face-to-face interviews are not apparent via this mode of communication. However, providing participants with a list of free counselling services and/or online support groups, which can be sent via email or during an on-line interview, can help to minimise harm and aid in the reduction of distress among participants.

CONCLUSION

With the continuing advancement of technology, CMC offers nurse researchers alternative approaches to data collection. This method is cost saving and has the ability to enhance recruitment, by providing a less threatening forum for participants to openly discuss sensitive issues, and giving access to participants who may be isolated and confined to their homes for various reasons. However, although this data collection method has many benefits, nurse researchers need to be aware of the ethical issues associated with CMC, such as threats to participant’s anonymity, and need to be equipped to deal with participant’s emotional distress if this should arise.

References


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Mixed methods as a third methodological movement might have come of age, but it certainly hasn’t yet reached maturity. While the focus of the literature to date has been on foundations and designs, several more ‘growth spurts’ from breakthroughs in conceptualisation and tools for implementation are needed. If analytic strategies will play a large part in these breakthroughs, developments in computing are likely to be major contributors to the process. — Pat Bazeley, Epilogue

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