

Chapter 41

ICTs and Domestic Violence (DV): Exploring Intimate Partner Violence (IPV)

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ABSTRACT

The use of information communication technologies (ICTs) to empower individuals through social support, help-seeking, and help-providing activities is finding its place in healthcare delivery. ICTs, in particular, offer access to timely and relevant information that domestic violence victims and organizations can tap into. Thus, this article explores the use of ICTs for providing and facilitating support and care-giving services to victims/survivors of domestic violence with online communities and other groups.

INTRODUCTION

As a communications medium, Computer-Mediated Communication (CMC) could connect geographically dispersed individuals without the constraints of time or space. Thus, individuals with diverse backgrounds, experiences, and ethnicities can share information and communicate with other individuals or groups (e.g., online community) at one time over the Internet. Online communities—where individuals with similar interests and/or experiences come together to interact—can benefit from CMC as a tool for seeking, gaining, and sharing knowledge and experiences. It is these communities—groups of individuals with similar interests and experiences who are connected using information communication technologies (ICTs) and whose conversations are facilitated through CMC use—that makes these ICTs a valuable tool for social support. Thus, this article proposes, the need to explore the use of ICTs; specifically, the role of CMC as a support medium for victims/survivors of domestic violence (DV). DV is an issue critical to healthcare and the overall general well-being of women, their families, and societies in general (Olaniran & Rodriguez, 2013).

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BACKGROUND ON DOMESTIC VIOLENCE

ICTs offer access to timely and relevant information, which allows DV organizations to serve as advocates and respond to specific cases of abuse (Hamm, 2001). Online DV organizations also provide other advocates with health and support information in order to better facilitate and provide a solution to victims/survivors of DV and other related types of sensitive healthcare issues (Campbell, Sy, and Anderson, 2000; NCIPC, 2003). The amount of information available online is also used to provide on-line training for individuals and organizations that deal with violence against women (VAW). A specific focus in this paper is the use of ICTs for providing and facilitating support and care giving services to victims/survivors of DV. Traditionally, ICT use in healthcare and healthcare delivery, primarily focus on hospital settings such as health care givers interaction with one another and patients or pharmacies and other agencies such that issues surrounding telemedicine and informatics are a commonplace. Notwithstanding, the Center for Disease and Control (CDC) classifies domestic violence as a serious *public health issue* (2008). According to CDC (2017), domestic violence is a serious, yet preventable, public health problem affecting more than 32 million Americans—over 10% of the United States population (CDC, 2008, 2017). The intimate partner violence (IPV) alone affecting more than 12 million people each year. Women are disproportionately impacted (CDC, 2017).

National Domestic Violence Statistics

- 1 in 4 women and 1 in 7 men will experience severe physical violence by an intimate partner in their lifetime (CDC, 2017).
- 1 in 10 women in the United States will be raped by an intimate partner in her lifetime.
- An estimated 9.7% of women and 2.3% of men have been stalked by an intimate partner during their lifetime (CDC, 2017).

Other Domestic Violence Data

- Female victims of intimate partner violence experienced different patterns of violence than male victims.
- Female victims experienced multiple forms of these types of violence, male victims most often experienced physical violence. Most of this victimization starts early in life.
- Approximately 80% of female victims experienced their first rape before the age of 25 and almost half experienced the first rape before age 18 (30% between 11-17 years old and 12% at or before the age of 10).
- About 35% of women who were raped as minors were also raped as adults compared to 14% of women without an early rape history.
- 28% of male victims of rape were first raped when they were 10 years old or younger (see CDC, 2017).

Studies have also demonstrated the impact of intimate partner violence on the endocrine and immune systems through chronic stress or other mechanisms (Breiding, Black, & Ryan, 2008; Crofford, 2007; Leserman & Drossman, 2007). The problems include but not limited to Fibromyalgia, Irritable bowel syndrome, Gynecological disorders; Pregnancy difficulties such as low birth weight babies and prenatal

deaths, sexually transmitted diseases including HIV/AIDS, Central nervous system disorders, Heart or circulatory conditions. Intimate partner violence (IPV)—whether sexual, physical, or psychological — leads to various long-term chronic disease and other health issues that exhibit PTSD symptoms (CDC, 2017; Roberts, Klein, & Fisher, 2003).

TYPES OF DOMESTIC VIOLENCE

According to Saltzman, Fanslow, McMahon, and Shelley (2002), there are four major categories of DV, including:

- *Physical violence* is the intentional use of physical force with the potential for causing death, disability, injury, or harm. Physical violence includes, but is not limited to, scratching; pushing; shoving; throwing; grabbing; biting; choking; shaking; slapping; punching; burning; use of a weapon; and use of restraints or one's body, size, or strength against another person.
- *Sexual violence* is divided into three categories: 1) Use of physical force to compel a person to engage in a sexual act against his or her will, whether or not the act is completed; 2) Attempted or completed sex act involving a person who is unable to understand the nature or condition of the act, to decline participation, or to communicate unwillingness to engage in the sexual act, e.g., because of illness, disability, or the influence of alcohol or other drugs, or because of intimidation or pressure; and, 3) Abusive sexual contact.
- *Threats of physical or sexual violence* use words, gestures, or weapons to communicate the intent to cause death, disability, injury, or physical harm.
- *Psychological/emotional violence* involves trauma to the victim caused by acts, threats of acts, or coercive tactics. Psychological/emotional abuse can include, but is not limited to, humiliating the victim, controlling what the victim can and cannot do, withholding information from the victim, deliberately doing something to make the victim feel diminished or embarrassed, isolating the victim from friends and family, and denying the victim access to money or other basic resources. It is considered psychological/emotional violence when there has been prior physical or sexual violence or prior threats of physical or sexual violence.

In addition, stalking is often included among the types of IPV. Stalking generally refers to harassment or threats including: –following or appearing at a person's home/residence or place of business, harassing phone calls, leaving written messages or objects on an individual's property, and vandalizing properties (Hien & Ruglass, 2008).

Social Networks and DV

DV support groups and services on social networks and new media are a unique type of community, where individuals who have experienced DV can understand, access support, and interact with others—particularly victims/survivors—about the issues surrounding DV. DV organizations, activists, and support groups have begun to—and will continue to increase services, goods, information, and the support they provide via ICTs. At the same time, the number of women who experience DV continues to increase each year (Woodluck, 2016). Consequently, this is a very serious and continuing challenge

to public health. DV is a serious matter of concern that needs, and certainly deserves, further inquiry. The role of ICTs in providing/facilitating support for victims/survivors is important in understanding this potentially dangerous healthcare problem.

Research suggests that being involved with or living with an abusive partner can have a profound impact on a woman's general and mental health (El Morr & Layal, 2019; Longo, 2018; Simmons, Lindsey, Delaney, Whalley, & Beck, 2015). Studies also show that women who have experienced physical or sexual abuse also tend to experience bad health more frequently than other women; and consequently, many become engaged in risky behaviors such as: smoking, physical inactivity, alcohol, and drug abuse (Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008; Gonzales & Gavillano, 1999; Silverman, Raj, Mucci, & Hathaway, 2001).

CHALLENGES AND PROBLEMS WITH DOMESTIC VIOLENCE

Financial

Domestic violence can include financial abuse either during the time the victims are staying with their abusers or after victims/survivors have left their perpetrator. DV victims can be punished through lack of monetary support. Given many women who experience(d) domestic violence tend to be uneducated and unemployed—typically, relegated to household management—they appear to be helpless, according to research studies (Barnett, 2000; Women's Health, 2009). Consequently, victims/survivors of DV tend to demonstrate a lack of willingness to leave their perpetrators mainly because they lacked autonomy in their financial undertaken (Hauge & Kiamanesh, 2019; Hien & Ruglass, 2008; James, Brody, & Hamilton, 2013; Shilubane & Khoza, 2014). At the same time, those who leave their abusers are faced with the reality that they lack necessary skills to become gainfully employed or earn enough income to survive (ACLU, 2007; Shilubane & Khoza, 2014).

Due to economic abuse and isolation from supportive relationships, the victim usually has little to none of their own savings to rely on and usually few people they can count on to assist them when seeking help (StopVaw, 2010). This has been shown to be one of the greatest obstacles facing victims of DV, and the strongest factor that can discourage them from leaving their perpetrators (StopVAW, 2010). Survey data indicated that 36 percent of US cities reported DV was a primary cause of homelessness in their area (ACLU, 2007). Furthermore, apartment complexes tend to have a *zero-tolerance* policy for crime, to the extent that DV victims may face eviction from their housing and be forced to break their rental agreement (ACLU, 2007). In this situation, the victim is also faced with becoming homeless or having to move to a shelter.

Personal and Family Safety

According to Hien and Ruglass (2008), victims/survivors of DV “live with intense shame and fear that prevents them from taking action to protect themselves” (p. 50). In addition to shame and fear, several abused women suffer from psychiatric disorders (e.g. PTSD, depression, substance abuse) due to their exposure to violence, which may affect their ability to, “mobilize their psychological and social resources and take action” (Hien & Ruglass, 2008, p. 50). It is well documented that the act of help-seeking can actually be more of a challenge to abused women by slowing down the healing process (Hien & Rug-

lass, 2008; Leone, Johnson, & Cohan, 2007; Morrison, Luchok, Richter, & Parra-Medina, 2006; WHO, 2016). More specifically, when women face judgmental responses (Morrison et al., 2006), they are left feeling “guilty, depressed, anxious, distrustful of others, and reluctant to seek further help” (Campbell & Raja, 2005, p. 97).

Despite the increasing amount of available shelters, this service is not utilized by most battered women. It was found that less than 2% of severely abused women reported seeking help from a shelter in the past twelve months, while victims of minor violence did not seek help from shelters at all (Clark, Burt, Shulte & Maguire, 1996; Olaniran & Rodriguez, 2013). As a matter of fact, it has been reported that 38% of women murdered globally were victims of IPV (WHO, 2016). Furthermore, because abused women tend to reconcile with their significant other, it is problematic for shelters to help women dealing with DV. As a result, the quality of help for abused women at these shelters is negligible (WHO, 2016). The problem workers at shelters reported to have with abused women returning is due to their measure of success, where success is measured depending on the number of women who do not return without accounting for the reason why they are not returning. There is currently no good evidence supporting the effectiveness of shelters for female victims of DV (Orpin, Papadopoulos, & Puthussery, 2020; Radar Services, 2008).

There is limited research about the effectiveness of hotlines, yet researchers, Dugan, Nagin, and Rosenfeld (2003) noted that “the availability of hotlines in the city, the presence of DV units or training programs in police departments and prosecutors’ offices, and the employment of trained legal advocates on the prosecutor’s staff” each appear to influence retaliation or revictimization by abusive partners (p. 24). Therefore, rather than assisting abuse victims/survivors—as these systems and programs were designed to do—they have been found to backlash (Dugan et al., 2003; WHO, 2016). Unlike traditional resources, DV support/information services via CMC are on the Web in a virtual environment; therefore, these services are not physically present and, perhaps, would not influence revictimization. Another important service for battered women is the health care system, which has not played an active role in identifying or intervening in domestic violence. Research indicates that over one-fifth of women who seek treatment in hospitals display symptoms of DV, however, protocols for DV screening are not invoked or utilized (Orpin et al., 2020; WHO, 2016). For women who are not connected to other systems, or DV services, it is imperative that hospitals serve as initial intervention point. From there, women may receive information about where to seek help and find other services.

Technology-Mediated Form of IPV

There are other and non-physical ways for partners or former partners to perpetrate violence against the woman. An emerging and growing trend is the use of communication technology to commit violence against women (Powell & Henry 2018). Using social media, smart phones, email and mobile phones, the abuser can harass a former partner with unwanted phone calls, image sharing, and texting (i.e., hacking). Furthermore, the abuse can be maintained at a constant and high level, without the abuser being physically present. Surveillance apps have been used to enable perpetrators to monitor and stalk either current or former partner (Williams, 2015). New spyware that can be linked to mobile phones is readily available and allows the perpetrator to read partner’s email and monitor all other electronic devices. The spyware can identify a victim’s current location and can be set up to mirror the phone or a personal computer where the perpetrator can watch everything the victim is doing. Seldomly, a tracking device may be attached to the woman’s car so that she can be easily stalked (Stolz, 2017). Indeed,

the woman or victim may not even be aware of the illegal tracking until the device is located by auto mechanics. Technology-mediated violence against women can traumatize and isolate women, because online interactions relate to daily part of life. The Internet and mobile phones are used to maintain social contact, but due to tech stalking, women may have to change their online persona or withdraw their digital presence to stop their abuser (Powell & Henry 2018). Many of the devices used by perpetrators to intimidate and stalk are easily available, and improvements in technology are likely to make them even more so. Consequently, health care service providers need to be included in how to recognize potential these technological abuses.

Domestic Violence Against Migrant Women Workers

There are two types of violence when dealing with migrant women workers (MWW). First, there is violence against MWW during employment and the other is domestic violence against MWWs. However, these two categories are not mutually exclusive. Immigrants, in general face some challenges when they resettle in a foreign country. A host of factors influence their experience, including the resources they bring to the host country and those they find there. Immigrant women find themselves unable to participate or navigate the same resource networks as their male cohorts (Huysman, 2014; Olaniran, 2018). In some instances, men serve as intermediaries between the women and community/state resources. Thus, women are unable to navigate services or available resources on their own, their male partners may be the determinant of what services women are able to access in terms of resources (Menjívar & Salcido, 2002; Olaniran, 2018).

Furthermore, *isolation* has been suggested to exacerbate violence against MWW in the sense that it is easier for men or intimate partners to control these women both emotionally and physically in this manner (Sabina, Cuevas, & Zadnik, 2014). Because of isolation, intimate partners can gain control over resources that could offer legal, financial, and/or emotional support to these women (Hauge & Kiamanesh, 2019). For instance, it was discovered that when Guatemalan and Salvadoran women in the United States received information on domestic violence and their rights at community organizations, their partners were not appreciative of such knowledge (Menjívar, 2000).

From a different standpoint, culture (i.e., native culture and host culture) impacts MWW's predisposition to intimate partner violence (IPV). It has been shown that Latino women's experiences of IPV are drastically impacted by their culture and cultural adaptation to the United States (Grzywacz, et al., 2009; Orpin, et al., 2017; Sabina, et al., 2014, Yoshihama, Blazevski, & Bybee, 2019). Specifically, MWWs' adaptation to Anglo orientation in USA is presumed to change the family dynamics of the Latinos in terms of redistribution of power which often causes tension (Grzywacz, et al., 2009) when individuals attempt to renegotiate their roles in their new environment. Intimate partners may view the new cultural shifts in Latino women as threatening to the woman's traditional roles in the family. This consequently increases the risk of IPV (Sabina et al., 2015).

CMC and IPV Victims/Survivors

For the most part, CMCs role in IPV is that of information dissemination. That is, CMC offers the ability to link people together in a manner where they can discuss ideas and share advocacy strategies in a quick and cost-effective way. These interactions and discussions are facilitated by social media, e-mail, listservs, telnet, and teleconferencing in gaining insights to violence against women. At the same time,

the information dissemination that occurs via CMC has made the issue of DV a global, rather than local, one by addressing violence against women irrespective of age, class, race, and ethnicity (Tafnout & Timjerdine, 2009).

The Internet has also provided DV organizations with a greater flexibility to reach out to victims/survivors of domestic violence than previously possible through print and word-of-mouth outreach efforts, because it can reach a mass audience (Finn, 2000; Olaniran, 2018). CMC offers new approaches for outreach and a new arena for service delivery, which is very attractive to a movement committed to social change. While there are many advantages, DV organizations and caregivers are cautioned to temper enthusiasm with critical assessment of CMC. The digital divide continues to be an important issue in CMC usage and adoption in both developed and developing worlds (Olaniran, 2007, 2010; Zheng, 2016). Recent studies confirm existence of the digital divide and found significant correlations among variables associated with differences in economic development levels. For instance, countries with higher levels of CMC adoption showed positive and significant correlation with gross domestic product (GDP), service sector, education, and governmental effectiveness. However, in developing countries, population, age, and urban population are positively associated with CMC adoption, while Internet costs impact access and usage negatively (e.g., Billon, Marco, & Lera-Lopez, 2009; Zheng, 2016). Consequently, caregivers and domestic violence organizations are encouraged to address issues surrounding the digital divide to understand who benefits from their services—especially those offered via CMC and technology platforms. These service organizations also need to weigh the financial costs of service delivery with budget allocation decisions before embarking on service delivery through CMC. DV organizations must ensure that CMC usage and technologies deployed do not further ostracize parts of their targeted audience or potential users like those who do not have access to the technologies and disabled those who may very well need their provided services (Olaniran, 2010).

Depending on the type of ICT support used, there is the issue of continue usage beyond initial adoption that caregivers and DV organizations need to bear in mind. A study in e-health indicated that e-mail support interventions benefit some but not all caregivers and these interventions have high non-usage attrition (Chiu et al., 2009). Using the Unified Theory of Acceptance and Use of Technology (UTAUT), which explains the intention to use information technology (Venkatesh, Morris, Davis, & Davis, 2003), there are four principles including: (1) Performance expectancy, which deals with a person's belief that a new technology will improve task goals; (2) Effort expectancy, which is the degree of ease with the use of a new technology. This is similar to the Ease of Use (EOU) addressed by Olaniran (2007); (3) Social influence, which addresses the level of influence other people exert in their decision to use new technology; and, (4) Facilitating conditions focus on the level of support a user has available in using a given technology. These four principles affect intention to use and in predicting technology use. As a matter of fact, Venkatesh et al. (2003) found that performance expectancy and effort expectancy explain significant proportion of the variance than any of the other factors.

In the utilization stage attrition or discontinuation by caregivers occurs. Based on factors such as clinical needs and technology aptitude, caregivers with less competence were less likely to continue service and those with a more positive attitude toward technology were more likely to continue service. Furthermore, upon identifying and experiencing clinical benefits, frequent system users were more likely to continue service and concluded that they benefited more from CMC. Consequently, Chiu and Eysenbach (2010) concluded that while usage behaviors are influenced primarily by technological factors in the early stages of adoption both clinical and technological factors are critical in the later stages of adoption; to the extent that, the frequency of use is influenced by clinical outcomes.

There are other social challenges or barriers that impact the utilization of ICTs in care giving for DV victims/survivors. Olaniran (2007) alluded to general social challenges including digital divide, illiteracy, and technology illiteracy among others. At times there are those who have access in their own homes but are afraid that their abusers may be monitoring their usage or ultimately prevent them from using CMCs. Given the socio-economic status of women, access to technology is not immediately a given. Some could not afford computer or Internet service, and some have to contend with choosing between access (e.g., mobile phone with Internet access) and putting food on the table thus, they may have to rely on public assistance. It is alarming that this is the case with domestic violence victims/survivors regardless of age, education and socio-economic class. For instance when one talks about digital divide in CMC use, traditionally one thinks of the haves and have-nots, which is often compounded by the fact that individuals from Economically Developed Countries (EDCs) usually enjoy more readily available access to CMCs than those from Less Economically Developed Countries (LEDCs) (Olaniran, 2007). Whereas, many individuals (e.g., less educated, poor, and other marginalized groups) will be left out. Hence, the issue of technical literacy persists, which hinders individuals from the usage of such technology (Olaniran, 2007).

Although the Internet provides a nice medium and several avenues for seeking information and services for DV victims/survivors, the Web itself also creates a means for victimization—particularly when it comes to privacy. There is the danger of loss of privacy for individuals who access chat rooms and post messages on discussion boards and forums (Briggs, 2018; Finn, 2000; Olaniran & Rodriguez, 2013). This is because messages tend to be archived and can be searched by abusers, who then have access to the location of their victims and ultimately cyber-stalk and harass them (Briggs, 2018; Kranz, 2002). Also, while CMCs are instrumental in raising awareness and providing necessary coping mechanisms to DV victims/survivors, they can also become a tool that abusers use to control their victims. For example, for victims who have or possess technological means, such as cell phone or Internet access, they may have no control over them because they can be deprived of them at any time or when their partners get angry. Tafnout and Timjerdine (2009) offer the plight of DV victims in Morocco, where one victim contends: “I have to tell my husband because he must agree. The man sees the cell phone as an enemy. If the man has the right to have the cell phone, the woman also has the right to have it and needs it” (p. 94). Thus, female victims/survivors may not feel that they are able to benefit fully or use ICTs to cope with their DV experiences.

TOWARDS AI, IOT, CLOUD COMPUTING AS SOLUTIONS

For ICTs to succeed as agents of change in the lives of DV victims/survivors, certain things must be in place. Caregivers and counselors must help empower women to be self-confident, along with trusting in their own abilities to bring about the desired change. For instance, victims must be able to rely on their own power and recognize the need to participate or become proactive in decision makings about turning unpleasant situations around, despite social, economic, physiological, and family impacts. They must conclude or realize that they can gain control of their lives and fate, and the lives and destiny of their families and children. More importantly, victims of DV/IPV should be helped in a manner where, they not only know how to move from a state of helplessness to confidence in their own abilities, but also to be empowered to become advocates for other victims/survivors using CMCs. Tafnout and Timjerdine (2009) points to how legal aid shelters for DV victims in Morocco was able to accomplish this goal, as

women who possessed CMC tools were made aware of the strategic role of CMC in protecting and in opening up to what is happening outside their surroundings. According to the women, the mobile phone replaces the role of the family in reporting. As one IPV female survivor puts it: “In the past when your husband beats you, you seek help from your family who asks you to be patient, but now you can contact a legal center which can make your problem known and thus you help other women to reject violence” (Tafnout & Timjerdine, 2009, p. 93). Similarly, by encouraging the use of ICTs for support and information services, female victims/survivors can access, retrieve, and develop their own understanding based upon their personal experiences and needs.

Another recommendation is to ensure that all DV service providers (e.g., shelters, caregivers, hospitals, clinics, counselors, libraries, and so on) are equipped to provide Internet access, as well as ensuring that their staff is computer literate. Similarly, education to community groups and businesses can include Internet access to domestic violence services as part of the training. Trainers can encourage other organizations to bookmark links to domestic violence services on their computers and mobile phones, can offer links of local and national domestic violence resources (Olaniran & Rodriguez, 2013). Alternatively, there is the suggestion to encourage and promote Internet access in public places (e.g., libraries and community centers, where it may be safer for individuals to access DV resources that are available online and more importantly, where abusers cannot track victims/survivors’ browsing history.

In addressing domestic violence, caregivers are susceptible to vicarious trauma. Therefore, the best way for a clinician or caregiver to help avoid developing vicarious trauma is to incorporate good self-care practices. These can include exercise and relaxation techniques, debriefing with colleagues, and seeking support from supervisors (Olaniran & Rodriguez, 2013). Additionally, it is recommended that clinicians make the positive and rewarding aspects of working with domestic violence victims/survivors the primary focus of thought and energy, such as being part of the healing process. Clinicians should also continually evaluate their empathetic responses to victims, in order to avoid being sucked into the trauma that the victims are experiencing. Subsequently, it is recommended that clinicians observe good boundaries, and find a balance in expressing empathetic responses to the victim, while still maintaining personal separation from their clients’ traumatic experiences.

Although, ICTs are used to perpetuate IPV as discussed earlier, they can also be used to provide plethora of opportunities to reduce IPV. For example, the interconnectedness of technological devices through wearables otherwise known as the Internet of Things (IoT) and data mining through big data offer potential in this regard. Of importance is the notion body area network (BAN) or monitored features that collect and gather data, process it, and identify useful information (Yuce, 2010). BAN involves all of the applications and communication on, in, and near the body for monitoring physiological signals to detect a reaction to an attack (Rodriguez-Rodriguez, Rodriguez, Moreno, Heras-Gonzalez, & Gentili, 2019). At present, smartphones offer 24/7 monitoring capability with their accelerometers and GPS that enable to a mechanism for managing information. Furthermore, they can send data and information to the cloud, to be either stored, or forward emergency calls in case a survivor is at risk.

Similarly, there are other commercial devices, such as the Amazon Echo, which is equipped with an artificial intelligence (AI), like Apple Siri (Apple), and Google Home that allows monitoring beyond recreational usage (Rodriguez-Rodriguez, et al., 2019). There are also applications in the field of home security, such as the commercial Alexa Guard, which provides an alarm when noises are detected (such as breaking glass), and can also detect a cry for help that can be adapted to the management and prevention of IPV (Huang, Chiew, Li, Kok, & Biswas, 2015; Rodriguez-Rodriguez, et al., 2019). It needs to be said

that that these technologies are not necessarily fool-proofed because they can be hacked or used by IPV offenders as well. However, the technologies still offer another layer of protection for victims of IPV.

FUTURE DIRECTION

In the future, it would be interesting to see which types of ICT mediums are preferred or used the most by IPV victims/survivors (e.g., chat rooms, searching for information, online counseling, etc.). Future research can assess and evaluate which applications or learning tools are preferred by DV victims/survivors in general.

Another direction for the future is to examine the impact of new technology infrastructure or platform such as the 5Gs and the ability to deliver services in locales that are still dealing with digital divide or lack of access to the state of the art mobile phones and wireless technologies. One area of DV that is under explored is that of male victims/survivors of DV. It is troubling that there is not much literature in this area when in fact there are vivid evidence that males also suffer from domestic violence and IPV. The Bureau of Justice statistics indicated that of the 2,340 DV deaths in 2007, 30% were male. Perhaps the lack of literature on male as victims of DV is because the information is rarely reported by men because of the taboo surrounding men as victims of IPV especially when the perpetrators of such violence are women. More importantly, help providers and healthcare givers must be aware that ICT usage is not a panacea for IPV victims/survivors notwithstanding.

CONCLUSION

The use of information and communication technology, specifically CMC—will continue to increase and expand across all boundaries and collectives of individuals—users, organizations, communities, businesses, and so on. Researchers (Finn, 2000, Kranz, 2002, Olaniran, 2007) continuously examine the nature of use and effectiveness of ICTs, as technology rapidly changes the ways individuals and groups interact and provide information/support services, among others. This paper examines the nature of IPV, the role that ICTs play in providing support services to victims/survivors of DV and in particular IPV, while offering some recommendations. Finally, as ICTs (e.g., social media's, networks, websites) are gaining popularity even as IPV continues to be a major issue globally. Therefore, the role of Internet (i.e., IoTs, cloud computing, and AI) may be in infancy in terms of how to deploy ICTs to assist in IPV.

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