# More research is needed on digital technologies in violence against women

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Digital technologies have proliferated in the health sector in recent years, driven by the hope that they could offer solutions to many of the complex challenges faced in our daily lives.[1] In the field of violence against women, there has been a parallel burgeoning of web-based interventions for prevention and responses. This diverse range of web-based interventions for violence against women has included open source mapping of sexual violence exposure, mobile device applications (apps) and websites providing information on services for survivors of violence, safety assessment and planning tools, relationship support interventions, and interventions promoting perpetration-related behaviour changes for men.[2]

A unifying feature of these interventions has been the inadequate investment in formative research and evaluation of their efficacy.[3,4] This lack of evaluation is particularly notable in low-income and middle-income countries (LMICs), although in *The Lancet Public Health*, Kelsey Hegarty and colleagues[5] remind us of how few rigorous impact evaluations have been done in high-income settings. This problem is found across different interventions, as illustrated by a recent systematic review of systematic reviews,[6] which found evaluations of indifferent quality, which were infrequently done in LMIC settings, and often had mixed findings.[1,4] In some areas there have been positive findings, but these were associated with behaviour changes in relation to risk factors for chronic diseases and medication adherence and focused on text messages rather than websites and apps.

I-DECIDE is a complex intervention, theoretically based and built on an interactive platform.[5] As such, this intervention represents the cutting edge of decision support technology for women experiencing violence. The evaluation was rigorously designed and recruitment of participants through social media promised individuals who were current internet users and thus had overcome barriers to accessing internet technology.[5] This positioned the intervention well for success. In this context, the null study findings demand careful reflection.

These findings remind us that the growth of web-based technologies in the field of violence against women has far outstripped the evidence base in all global settings.[5] At the very least, these findings show that we need more data about the niche that web-based technologies are designed to fill before we invest in them more extensively—who are the survivors of violence against women that we seek to assist, what are their current barriers to seeking care, what services are already potentially within their grasp, and how are web-based technologies positioned to overcome existing barriers to their use, particularly compared with non-web-based options?

The answer to these questions is likely to differ substantially across the globe, and will further depend on the acceptability of the technology, which has often not been established. Some people, especially young people, might spend a considerable amount of time on social media, but an eagerness to engage in social networking should not be assumed to equate with a hunger for web-based solutions and knowledge. Interest in these interventions needs to be investigated, and a greater understanding of intersectional considerations of acceptability is needed, lest products be developed to serve only the more socially advantaged. Such considerations could include availability of web pages in local languages, and access to smartphones, data, and resources for upgrades to ensure web-based platforms are developed in tandem with changes in basic technology. Ethical considerations must include research into the potential for harm with web-based technologies in violent relationships, in which possessive partners might search mobile phones. Browsing history showing the webpages that victims of violence against women have accessed could trigger violence, and the extent and context of such risks need to be understood.

Before positioning digital technologies to address violence against women via behaviour changes, research needs to show the potential for this to be effective. Research on prevention, such as the What Works to Prevent Violence Against Women and Girls Global Programme, has shown that effective interventions work through proven behaviour change methods. Interpersonal engagement is key in preventing violence

For more on the **What Works to Prevent Violence programme** see https://www.whatworks.co.za

against women through behaviour changes, and it is currently unclear how this would be achieved through a web page. In LMICs, considerable cultural, social, emotional, and economic barriers must be overcome for women to act and leave relationships, and all too often their refrain is that they would like the violence to stop rather than for them to have to leave. It remains unclear how web pages will assist such women. In I-DECIDE, it seemed that women in the intervention arm's belief that they could achieve their goals was reduced, perhaps—as theorised by the authors—the complexity of the intervention undermined their belief in their ability to navigate their way out of violent relationships.[5]

Despite the focus of research in high-income countries and the insufficient research evidence overall, roll-out of web-based technology is underway in LMICs without an associated increase in research to evaluate effectiveness. In a context where funding for prevention of and responses to violence against women is scare, it behooves us to critically consider the opportunity costs. The Article by Hegarty and colleagues[5] is a firm reminder to funders and proponents of these interventions that we must establish exactly what these tools can achieve and for whom and define what they cannot. If this is not done, there is considerable risk that a fair amount of our already restricted funding in the field will be fruitlessly invested.

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We declare no competing interests.



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