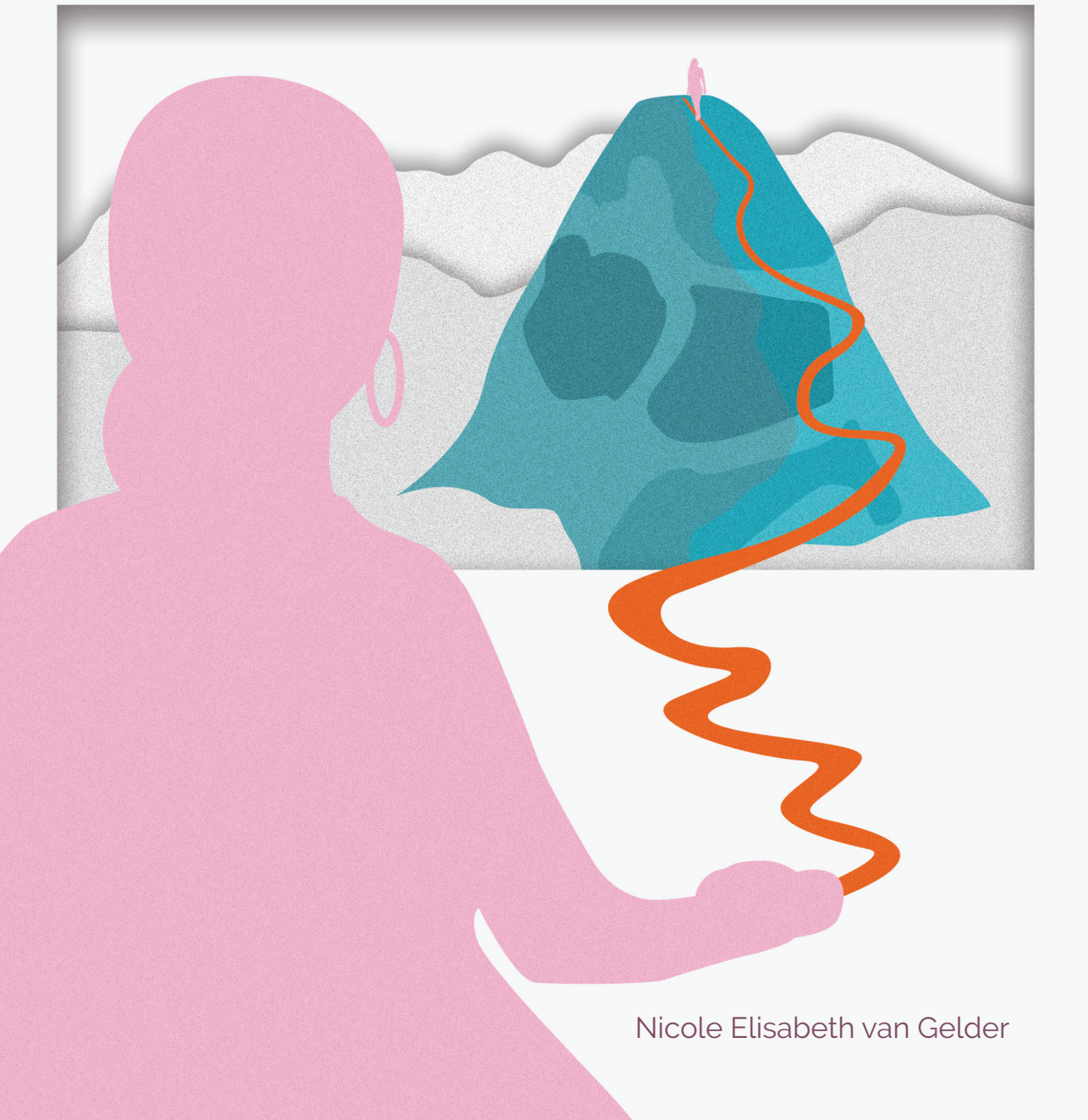
INNOVATING SUPPORT FOR WOMEN WHO EXPERIENCE INTIMATE PARTNER VIOLENCE AND ABUSE

The development, implementation, and evaluation of the self-support eHealth intervention SAFE



Nicole Elisabeth van Gelder

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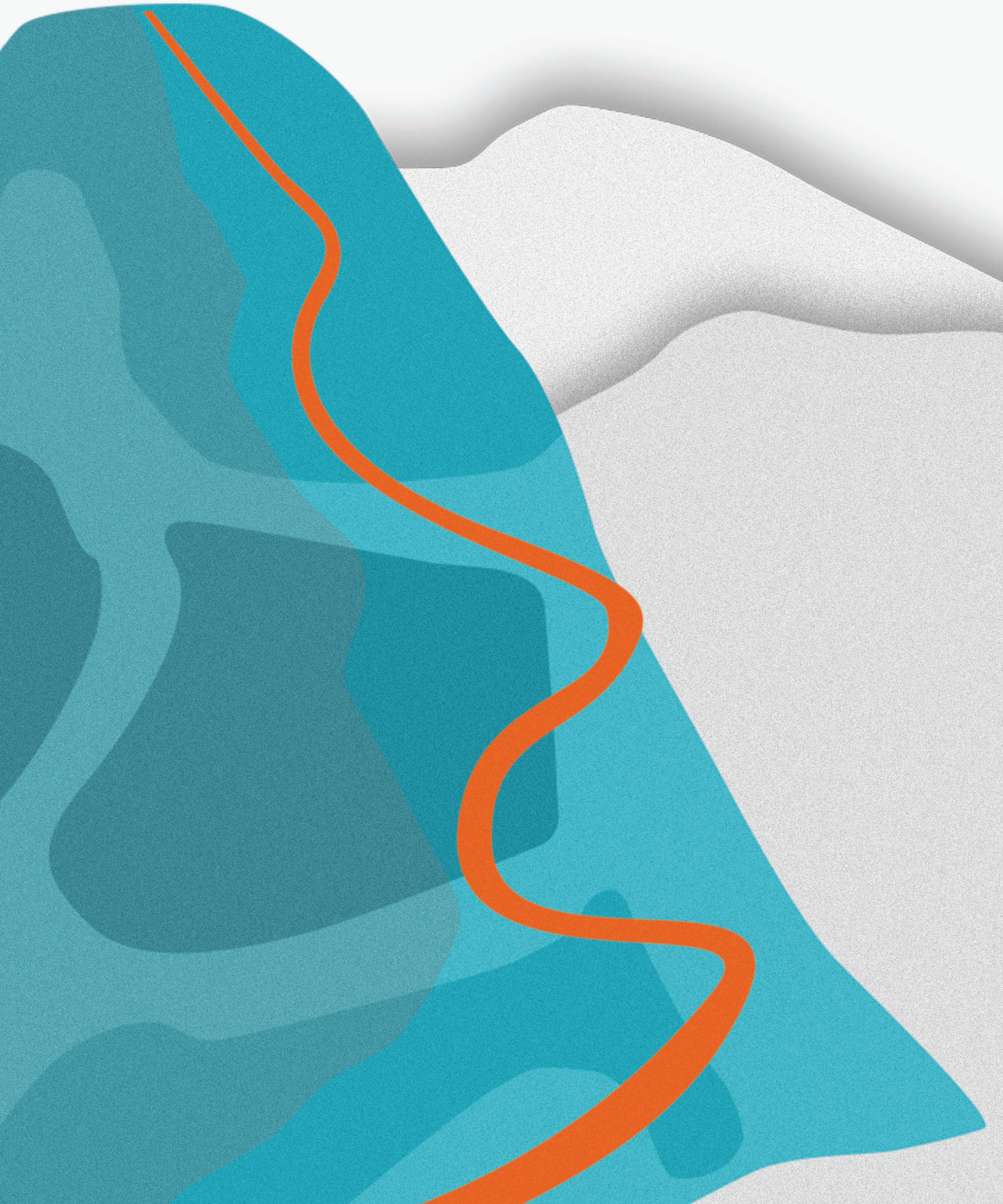


CHAPTER 1

General introduction

Short overview

This thesis describes the studies conducted into the development and evaluation of the Dutch SAFE eHealth intervention for women who experience(d) intimate partner violence and abuse (IPVA). IPVA is a type of domestic violence and abuse (DVA) that occurs frequently in society but that is often accompanied by stigma, complicating the help seeking process. With the internet being able to offer anonymity and easy, low threshold accessibility, an online platform could be a suitable means of reaching women who experience IPVA and support them, for example in help-seeking. To this aim, the SAFE intervention was established. The phases of development, implementation, and evaluation of the SAFE intervention are described in the chapters of this thesis (Figure 1). Furthermore, based on data from the SAFE project, we paid specific attention to a lesser acknowledged type of IPVA: economic abuse.

Intimate partner violence and abuse (IPVA) contains all types of violence and abuse between (ex-)partners. Examples per type of IPVA are:

- ***Physical:*** hitting, hair pulling, strangulation.
- ***Psychological / emotional:*** threats, humiliation, manipulation, stalking, controlling behaviors.
- ***Sexual:*** assault, rape, forced unprotected sex.
- ***Economic / financial:*** obstructing working or studying, obstructing access to money and resources.

IPVA can occur face-to-face and via digital means, for example online stalking.

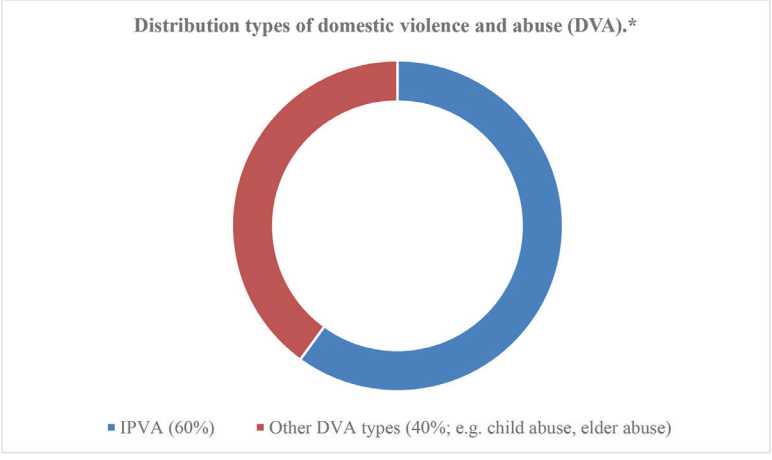
Definition of intimate partner violence and abuse

Intimate partner violence and abuse (IPVA) entails all types of violence and abuse between (ex-)partners (WHO, 2021): psychological, physical, sexual, and economic. While myths, prejudice, and stereotypes often paint a one-dimensional picture of IPVA situations ('man hits woman'), we know that IPVA occurs widely and in all layers of society: it can be young people who are in their first relationship, people that are dating, older people who have been together for decades, people with and without a migrant or bicultural background, people with and without disabilities, people that are in a heterosexual relationship or a non-heterosexual

relationship, for example same-sex. It crosses age, sex, gender, cultural and religious background, educational and income level. Thus, when addressing IPVA, we must recognize the complexity and multitude of variations of IPVA situations, dynamics, and contexts.

Prevalence of intimate partner violence and abuse amongst women in the Netherlands

In the Netherlands, the first prevalence study with data from 1986 showed that 29.2% of women between 20 and 60 years old experienced physical or sexual abuse by a current or former partner (Römkens, 1997). According to the most recent national prevalence report, most DVA is committed by a (ex-)partner (IPVA) and 10% of women aged 16 years and older reported having experienced some type of domestic violence at least once in the last 12 months prior to the survey. When taking verbal aggression into account, 33% of women aged 16 years and older experienced domestic violence (Centraal Bureau voor de Statistiek, 2023). In 2022, *Veilig Thuis* (translation: Safe Home; national DVA organization) received 48.250 reports of IPVA (Veilig Thuis, 2023). During the COVID-19 pandemic, the severity and prevalence of IPVA increased globally (Muldoon et al., 2021; Piquero et al., 2021; van Gelder et al., 2020).



**Source: Huiselijkgeweld.nl, 2020.*

Both men and women can be victims / survivors (from here on referred to as survivors) and perpetrators of IPVA. However, when it comes to victimization, women make up the majority of IPVA survivors. Also, the violence they endure is of a more structural nature and it results in death more often than for male IPVA survivors (Aarten & Liem, 2022;

Akkermans et al., 2020; Centraal Bureau voor de Statistiek, 2021, 2023; Huiselijkgeweld.nl, 2020). According to the World Health Organization (WHO), 27% of women worldwide and 21% of women in the Netherlands, aged 15 – 49 years old, experienced physical and / or sexual violence by an intimate (ex-)partner at least once in their lifetime (WHO, 2021). Since much of this violence is underreported and psychological and economic IPVA are not always taken into account, this is an underestimation of the actual number of women IPVA survivors. For example, a report on coercive control and psychological violence against women living in EU member states shows that 44% of them has experienced this type of IPVA in their lifetime (European Institute for Gender Equality, 2022). For economic abuse (EA), several international studies show a high incidence amongst women IPVA survivors: 93.4% – 99% (Adams et al., 2008; Postmus et al., 2012; Stylianou et al., 2013; Surviving Economic Abuse, 2020).

Terminology: victims and survivors.
A discussion on terminology with regard to people who experience(d) IPVA is ongoing amongst researchers, professionals, the people experiencing IPVA, and society. The term **'victim'** is best known, however people can feel stigmatized when being called a victim or simply do not feel this word acknowledges their experiences and agency. Therefore, the term **'survivor'** is more widely used now as a more empowering term that recognizes the survivor's agency and strength. This is why we use the term survivor. We use it for people who are still in the abusive relationship as well, even though 'survivor' might imply having survived something and not being in that situation anymore. Furthermore, we acknowledge that not all people identify with the term survivor either. In the Netherlands, we only use the term '*slachtoffer*' (English: victim) and we also acknowledge that this term might not be the preferred term for people experiencing IPVA.

In the Netherlands, every year on average 40 women are killed and in approximately 60% of these cases their (ex-)partner was the perpetrator. Most of these women were murdered in their own home by their (ex-)partner using a knife, beating, or strangling them. However, this is likely to be an underrepresentation as only couples that were married or had a civil partnership (in Dutch: *geregistreerd partnerschap*) are counted and, for example, not a woman or a 16-year-old girl that got murdered by her ex-boyfriend who she was not married to and did not live together with (Centraal Bureau voor de Statistiek, 2020, 2022).

Consequences of intimate partner violence and abuse

IPVA has negative consequences for the survivor at multiple levels: mental health, physical health, social and family life, economic situation etc. For example, women can develop high stress levels, anxiety, depression, post-traumatic stress disorder (PTSD), addiction, psychosomatic complaints, suicidal tendencies, self-mutilation, and they can suffer from low levels of self-esteem and self-compassion. They can also experience fatigue, burnout, injuries, chronic disability or illness, sexually transmitted diseases, and sexual or reproductive problems (Ellsberg et al., 2008; Sauber & O'Brien, 2020; WHO, 2021).

On a social level, women can get isolated from family members, friends, colleagues, and neighbors. Some survivors are not allowed to leave the house (Goodman & Smyth, 2011; Peterman et al., 2020). Furthermore, they can face stigma, disbelief, or victim blaming from their environment or are afraid they might face these consequences if they decide to disclose the violence. They could also be afraid their (ex-)partner will hurt their loved ones or they might have explicitly threatened to do so, and therefore the survivor decides to avoid contact (O'Doherty et al., 2016; van Gelder et al., 2022).

Economically, survivors may not be able to work or study anymore because their (ex-)partner prevents them from doing so or sabotages them, or because of mental health issues caused by the experienced IPVA. Furthermore, their (ex-)partner might steal or withhold money from them or acquire debt in the survivor's name (Johnson et al., 2022; Postmus et al., 2020; van Gelder et al., 2021a).

Of course, IPVA also has a negative effect on how mothers parent their children (Chiesa et al., 2018; Pels et al., 2015). DVA can affect subsequent generations, this phenomenon is known as intergenerational transmission. Children who witnessed IPVA between their parents, experience about the same level of negative consequences as children who are victims of child abuse. They are more likely to be a victim and / or perpetrator of DVA / IPVA in adulthood than children without this experience (Ehrensaft et al., 2003; Lünnemann et al., 2020; Wood & Sommers, 2011).

Help seeking for intimate partner violence and abuse

The Netherlands offers a variety of help options for women who experience IPVA, for example: *Veilig Thuis*, local DVA organizations, shelters, social work, psychological help, police, legal help, *Centra Seksueel Geweld* (translation: Sexual Assault Centers), expert centers on domestic violence and child abuse, courses and interventions, general practitioners, and the AWARE (Abused Women's Active Response Emergency) system. While there are multiple of ways of accessing various types of professional help, the

system is not perfect (GREVIO, 2020) and many women find it difficult to seek help. This has various reasons, with feelings of fear, shame, and guilt being the most prominent ones. Furthermore, women can be unaware of their experience being IPVA, not know where to go for help, distrust professionals, be afraid to lose their children, think their situation is not severe enough to receive help, experience financial or language barriers, hesitate to leave their pet(s) behind, feel loyalty or love for their partner, fear their children will have to miss the other parent etc. (O'Doherty et al., 2016; Rose et al., 2011; van Gelder et al., 2022). Data from Amsterdam shows that on average it takes 33 IPVA incidents before a woman presses charges (Halsema et al., 2019). Also, women tend to seek help from informal resources, such as friends and family members, sooner than from professionals such as the police (Akkermans et al., 2020; Centraal Bureau voor de Statistiek, 2021; van Eijkern et al., 2018). Informal support could take the form of emotional and instrumental help, which the survivor can benefit from. However, there is a risk of certain support needs being unmet if the survivor solely relies on informal support (Cho et al., 2020). When a woman decides to leave her partner, this does not mean that the violence ends, and attempting to leave an abusive partner can even be fatal. Besides, women can still experience negative consequences, for example on their mental health for an average of 20 months after having left the abusive relationship (Ford-Gilboe et al., 2009).

eHealth and online help for survivors of intimate partner violence and abuse

To lower some of the barriers in help seeking, for example through anonymity and easy access, several countries developed online means for supporting IPVA survivors. This trend increased substantially during the COVID-19 pandemic but using eHealth in the context of IPVA or DVA is still quite novel (van Gelder et al., 2021b). There are various online chats available and other online modules or programs but few of them are scientifically evaluated. A number of international scientific studies were conducted (see text box; (Ford-Gilboe et al., 2020; Glass et al., 2021; Hegarty et al., 2019; Koziol-McLain et al., 2018). In the Netherlands, van Rosmalen-Nooijens and colleagues (2017) conducted a study on the first science-based eHealth intervention for youth and young adults (12-25 years old): Feel the ViBe. These studies do not consistently show statistically significant improvements in mental health when comparing an intervention group to a control group, but they do show consistently positive evaluations by the majority of the users when assessing feeling helped and supported. Furthermore, the intervention group tended to be more positive about the intervention they received than the control group.

International examples of scientifically developed and evaluated eHealth interventions for IPVA survivors:

- ***myPlan*** from the ***United States*** (Glass et al., 2021)
- ***iCan*** from ***Canada*** (Ford-Gilboe et al., 2020)
- ***I-DECIDE*** from ***Australia*** (Hegarty et al., 2019)
- ***isafe*** from ***New-Zealand*** (Koziol-McLain et al., 2018)

Developing and evaluating the SAFE eHealth intervention

The research in this thesis focuses on the development, implementation, and evaluation of the SAFE intervention (www.safewomen.nl; Figure 1), created by our research team at the Department of Primary and Community Care and the Department of Medical Psychology at the Radboud University Medical Center, with funding from ZonMw. The development phase contains a qualitative study amongst survivors and professionals (N=16; chapter two) into needs, wishes, and obstacles for an online IPVA intervention. Chapter three describes the study protocol of the SAFE intervention, showing the various evaluation methods for assessing effects of the intervention. The evaluation phase consists of three study components: a randomized controlled trial (N=198), a quantitative and qualitative process evaluation (respectively N=198 and N=10), and an open feasibility study (N=170). These evaluations are used to assess the intervention's effectiveness in decreasing mental health problems, such as anxiety and depression, and in increasing self-efficacy, awareness, and perceived support. Furthermore, we examine other effects of the intervention based on the participants' experiences and the feasibility of the intervention to provide information and support in a real-world setting. These studies are described in chapter four (quantitative evaluation) and chapter five (qualitative evaluation). Chapter six highlights an unexpected but important finding that emerged from our SAFE data: the occurrence of economic abuse as a type of IPVA. Chapter seven contains the general discussion on the process of developing, implementing, and evaluating an eHealth intervention for women IPVA survivors and presents directions for future research and further development of the SAFE intervention.

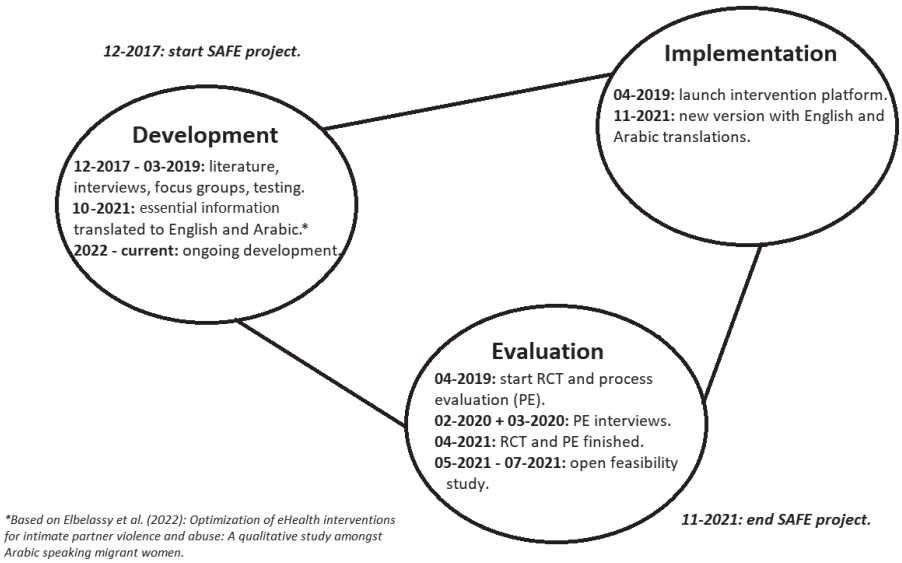


Figure 1. The cycle of development, implementation, and evaluation of the SAFE intervention.

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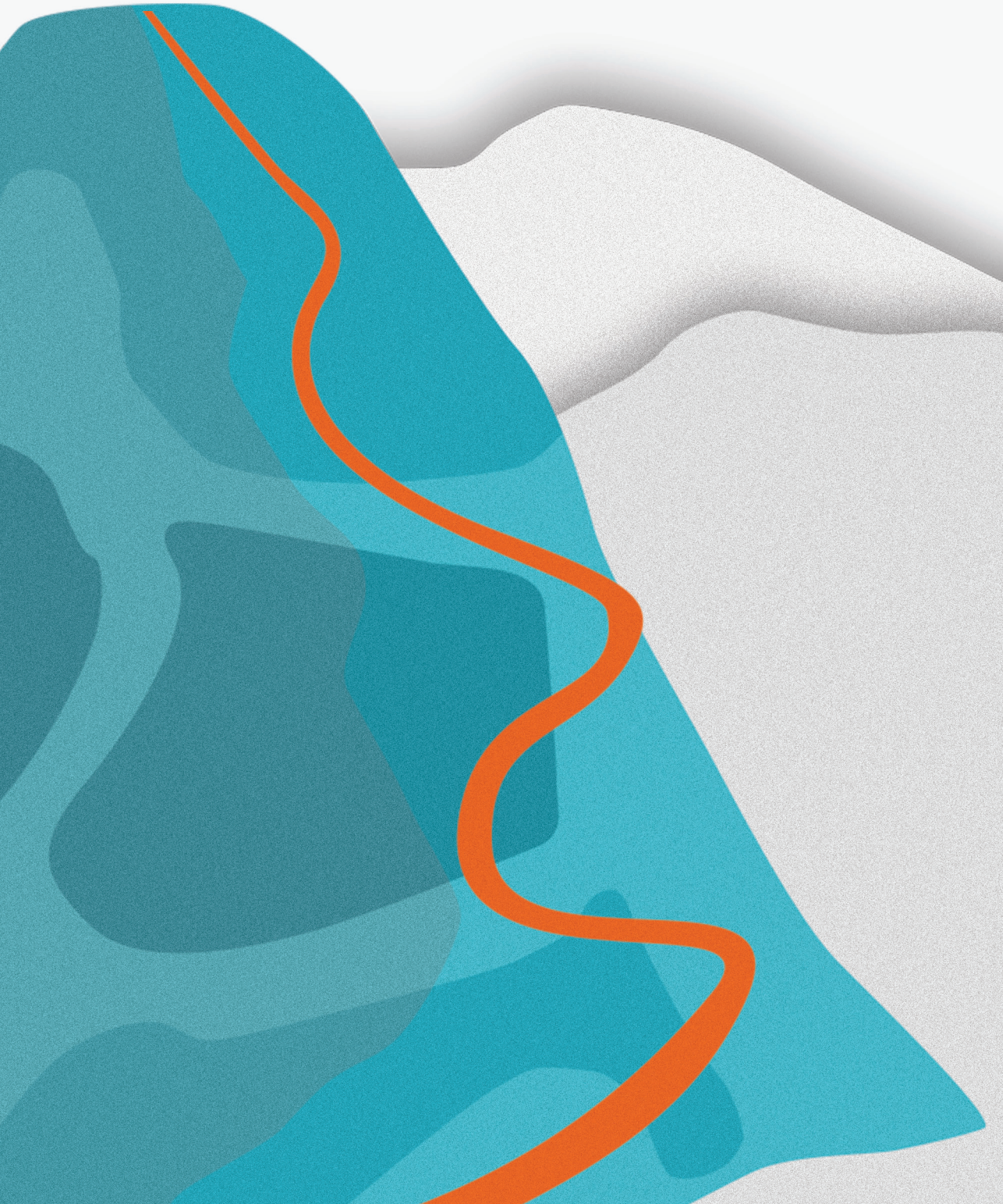

CHAPTER 2

"If I'd had something like SAFE at the time, maybe I would've left him sooner." – Essential features of eHealth interventions for women exposed to intimate partner violence: A qualitative study.

This chapter is based on the following article: van Gelder, N., Ligthart, S., ten Elzen, J., Prins, J., van Rosmalen-Nooijens, K., & Oertelt-Prigione, S. (2022). "If I'd had something like SAFE at the time, maybe I would've left him sooner." – Essential features of eHealth interventions for women exposed to intimate partner violence: A qualitative study. Journal of Interpersonal Violence, 37, 341–375. doi:10.1177/08862605211036108

Abstract

Background: Approximately one in three women worldwide experiences intimate partner violence and abuse (IPVA) in her lifetime. Despite its frequent occurrence and severe consequences, women often refrain from seeking help. eHealth has the potential to remove some of the barriers women face in help seeking and disclosing. To guarantee the client-centeredness of an (online) intervention it's important to involve the target group and people with expertise in the development process. Therefore, we conducted an interview study with survivors and professionals, in order to assess needs, obstacles, and wishes with regard to an eHealth intervention for women experiencing IPVA.

Methods: Semi-structured interviews were conducted with 16 women (eight survivors and eight professionals) between 22 and 52 years old, with varied experiences of IPVA and help. Qualitative data was analyzed using a grounded theory approach and open thematic coding.

Results: During analysis we identified a third stakeholder group within the study population: survivor-professionals, with both personal experiences of and professional knowledge on IPVA. All stakeholder groups largely agree on the priorities for an eHealth intervention: safety, acknowledgement, contact with fellow survivors, and help. Nevertheless, the groups offer different perspectives, with the survivor-professionals functioning as a bridge group between the survivors and professionals. The groups prioritize different topics. For example, survivors and survivor-professionals highlighted the essential need for safety, while professionals underlined the importance of acknowledgement. Survivor-professionals were the only ones to emphasize the importance of addressing various life domains.

Discussion: The experiences of professionals and survivors highlight a broad range of needs and potential obstacles for eHealth interventions. Consideration of these findings could improve the client-centeredness of existing and future (online) interventions for women experiencing IPVA.

Background

The World Health Organization defines intimate partner violence and abuse (IPVA) as any physical, sexual, psychological or economic violence that occurs between former or current partners (WHO, 2013). While various terminology is used in research to describe IPVA, such as domestic violence, partner abuse, abused women, and abusive relationships, we choose to consistently use the term IPVA. Both men and women can experience IPVA, however women are more frequently affected by it (Tjaden & Thoennes, 2000). Worldwide approximately one in three women experiences at least one type of IPVA in her lifetime (FRA, 2014; WHO, 2021). In a survey conducted in the Netherlands in 2019 6.2% of Dutch adult women reported physical and / or sexual IPVA in the last five years (Ten Boom & Wittebrood, 2019). Furthermore, almost 60% of all femicides in the Netherlands between 2015 and 2019 were committed by an (ex-)partner (Centraal Bureau voor de Statistiek, 2020a).

IPVA has negative consequences at various levels: physical (e.g. injuries), mental (e.g. anxiety, depression, post-traumatic stress disorder), social (e.g. distrust, social isolation), professional and financial (e.g. job loss). Growing up in a violent household also impacts the lives of children, who can witness abuse or be directly exposed to it. Childhood exposure to IPVA increases the risk of becoming a perpetrator and / or victim of IPVA later in life due to intergenerational transmission (Ehrensaft et al., 2003; Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008; Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006).

Despite its frequent occurrence and its severe consequences, women often refrain from seeking help and disclosing the violence. The possible explanations for this hesitance are fear, shame, guilt, (social) isolation, love, hope that the partner will change, distrust in professional help, worries about the children, financial worries, unawareness of IPVA, and lack of knowledge about support options (Hegarty & Taft, 2001; O'Doherty, Taft, McNair, & Hegarty, 2016; Petersen, Moracco, Goldstein, & Clark, 2005; Rodríguez, Valentine, Son, & Muhammad, 2009; Wilson, Silberberg, Brown, & Yaggy, 2007). Not all women have the opportunity to physically reach out for help or visit a supporting organization. Internet and mobile solutions represent an option to address these barriers. An internet-based or eHealth intervention is available at all times, it is easily accessible from various devices, and can offer the benefit of anonymity. It can be especially helpful for women who are unsure about whether they are dealing with IPVA or who are contemplating seeking help. It has the opportunity to bring together various aspects of supporting survivors such as information, help options, and support from professionals and fellow survivors, in a low threshold

manner. This can help survivors in reflecting on their own situation, in help seeking, and in feeling supported while providing anonymity, privacy and autonomy. However, we have to take into account that not everyone has access to the internet, online means have a limited ability in assessing a survivor's situation and possible danger, and an abusive partner may discover the online help seeking actions if they keep an eye on the survivor's online presence.

The development of eHealth interventions for women exposed to IPVA is a novel field of practice-oriented research, which has yielded positive results in the USA, New Zealand, Australia and Canada (Table 1). There are no scientifically developed and evaluated eHealth interventions for the European area this far, despite survivors and professionals being supportive of using eHealth (for IPVA) (Mantler, Jackson, & Ford-Gilboe, 2018; Tarzia, Iyer, Thrower, & Hegarty, 2017; Verhoeks, Teunissen, van der Stelt-Steenbergen, & Lagro-Janssen, 2017; White, Thomas, Ezeanochie, & Bull, 2016). Currently, most people in the Netherlands have access to the internet and are digitally literate which facilitates the use of eHealth: of the people aged 12 years and older 97% has access to the internet and 92,1% has a smartphone or mobile phone (Centraal Bureau voor de Statistiek, 2020b; Centraal Bureau voor de Statistiek, 2020c). Lastly, GREVIO (Group of Experts on Action against Violence against Women and Domestic Violence) "encourages the efforts made [in the Netherlands] to carry out research to determine whether provision of information via digital means is effective." – p. 32 (GREVIO, 2020).

It is crucial to address the needs and wishes of the target group while developing an intervention. Evaluations from IPVA eHealth interventions show that while survivors feel online support cannot substitute offline support, they found it useful and they value the advantages that eHealth can provide, such as: accessibility privacy, autonomy, no judgment, feeling supported (Ford-Gilboe et al., 2020; Hegarty et al., 2019; Lindsay et al., 2013; Tarzia et al., 2017). They also express concerns with regard to the possible consequences when an abusive partner discovers the efforts to seek help online (Lindsay et al., 2013). Little studies have assessed professionals' views in a similar way for IPVA eHealth interventions. Professionals from women's shelters state that technology can help with reaching more women, creating more possibilities for communication, and accessibility (Mantler et al., 2018). In studies assessing (mental) health professionals' attitudes towards eHealth, professionals believe that eHealth can be beneficial for their patients in treatment outcomes, communication and accessibility. However, limited access to the internet for certain people is an obstacle (White et al., 2016). Different stakeholders can offer different perspectives in the process of developing an eHealth intervention for IPVA survivors.

Survivors can speak from their own experience and provide first-hand information on how to best approach the target group, what to provide to them, and what to take into consideration when working with survivors of IPVA. Professionals working with survivors can offer information on logistics, options and constraints inherent to the support process. Given their distinct but overlapping points of view, we asked both survivors and professionals to share their expertise with us to aid the development of the first eHealth platform for women experiencing IPVA in Europe.

Interview study and SAFE

This interview study focused on needs and wishes of survivors and professionals regarding online help. This data, together with elements from international eHealth interventions and the scientific literature, was used towards the development of "SAFE: an eHealth intervention for women exposed to IPVA in the Netherlands". The previously published SAFE protocol describes the intervention, RCT, process evaluation and open feasibility study (van Gelder et al., 2020). The research question for this interview study was: *Which key aspects should be addressed in the development of SAFE, an eHealth intervention for women exposed to IPVA, according to survivors and professionals?*

Methods

Study design and data acquisition

We used the COnsolidated criteria for REporting Qualitative research (COREQ) as a guideline for reporting this study (Tong, Sainsbury, & Craig, 2007). In this qualitative study we used grounded theory to investigate the needs of women exposed to IPVA (Henning, 2004). The study entails 16 semi-structured interviews with women who experienced IPVA and professionals in the field of DV / IPVA. One researcher (NvG) conducted interviews until saturation was reached. NvG is trained in psychological conversational skills as a pedagogue and trained specifically for these interviews by KvRN, who conducted interviews with adolescents regarding DV (van Rosmalen-Nooijens, Wong, Prins, & Lagro-Janssen, 2017). A flexible interview guide was used (Supplementary Material). After every four or five interviews, the participants' answers and the interview guide were evaluated. As data saturation took place in the interview process, we added new sub-questions when needed. Before the start of the interview the participant received an information letter and signed an informed consent form. Face-to-face interviews and one phone interview took place at a time and place of the participant's choosing, with a duration between 45 and 60 minutes. Each interview was recorded (audio only), typed out *ad verbatim* and emailed to

the participants for confirmation. The questions addressed important aspects for eHealth and is designed to inform the development of an eHealth intervention (Supplementary Material). At the time of the interviews, the intervention was in its development phase and reliant on the outcomes of this interview study for further and final development. The intervention was unknown to the general population and therefore none of the participants were involved with SAFE prior to the interviews. They did receive some information on the initial ideas for developing an eHealth intervention for providing information and options for help and support. When applicable we asked about personal experiences with IPVA. Furthermore, participants filled out a General Characteristics Questionnaire (GCQ) on demographical data (e.g. age, educational level) and their experience with IPVA (Table 2).

Recruitment and study population

The survivors were contacted online through an organization that supports survivors of IPVA. The professionals were contacted online through DV and IPVA organizations. We used theoretical sampling. Participants were included if they were between 18 and 55 years old and self-identified as a survivor of IPVA and / or an expert on DV / IPVA. Exclusion criteria were: in need of immediate help and / or not speaking Dutch. We worked towards code and meaning saturation with a total of 16 women with various experiences of IPVA and an age range of 22 to 52 years old (Hennink, Kaiser, & Marconi, 2017). Originally, they were divided in two groups: 8 survivors and 8 professionals. However, while analyzing the data a third group was identified based on the unique input that they offered: survivor-professionals. These are professionals who have personal survivor experience, or survivors who have had training in using their own personal experiences to help others in dealing with IPVA. This group was then analyzed separately as their perspectives are shaped and blended by their experiences.

Analysis

During the analysis of the interview data, we identified three groups based on the unique input they offered: survivors, professionals, and survivor-professionals. In comparing the input of these groups for an eHealth intervention, we expect the groups to provide diverse insights and, after identifying three groups instead of two, we expect the survivor-professionals to deliver the most input as they have a combined knowledge and experience from both perspectives. The final groups are defined as follows:

- Survivors: women who have experienced IPVA but who are not working on DV or IPVA as a professional, nor have they had any training to use their own experience in helping other people facing DV or IPVA (N=7).

- Professionals: individuals who work on DV or IPVA as a professional, without personal experience of IPVA (N=4).
- Survivor-professionals: professionals on DV and / or IPVA who have personal survivor experience, or survivors who have obtained specific training to use their personal experience to help others facing DV or IPVA (N=5).

In analyzing the data we used the grounded theory approach (Henning, 2004). This approach uses qualitative content analysis, with open thematic coding, as a way of analyzing qualitative data for developing a theory. The grounded theory approach is based on inductive reasoning: "*... the discovery of theory from data* " – p. 1 (Glaser, 2017). Raw data is shaped into codes, which are shaped into categories, which are then shaped into themes (Glaser, 2017; Henning, 2004).

Two researchers (NvG, JtE) analyzed the interviews independently, employing an open thematic coding approach (Ayres, 2014; Glaser, 2017; Henning, 2004). The qualitative data analysis program Atlas.ti, version 6.2 (Friese, 2011), was used to underline and code key terms. All personal identifiers were removed to avoid direct attribution of the illustrative quotes. Next, the researchers compared codes and coded segments and sought consensus about the coding frame during several iterations. After saturation was reached, all interviews were read again with the final codebook to check if all text segments had been coded correctly. To minimize loss of relevant information, a third researcher (KvRN) analyzed the first four interviews. The resulting codebook was organized into categories and themes by both researchers independently until consensus was reached again. All interviews were reread again to make sure that all data had been included.

Results

In total 16 women were interviewed between the ages of 22 and 52. All women were born in the Netherlands and identified as Dutch, living in four different provinces. All but one reported to be heterosexual (participant 203 answered 'rather not say'). Regarding religious backgrounds: 9 answered 'none / atheism', 5 are Christian, and 2 answered 'other'. 10 out of 12 women who experienced IPVA reported that emergency services had been involved. Table 2 shows the participants' demographic background and their experiences with IPVA.

Codes were identified as needs (24 codes) and obstacles (21 codes). The most discussed codes were selected, looking at the top 3 mentioned codes (for needs and obstacles) for separate groups and in total (Appendix 1 and 2). We made an in-depth assessment

of the contents of ten codes in total (5 needs and 5 obstacles), showing similarities and differences between the three groups. The obstacle 'religion' is discussed separately as it was mentioned by only one participant (survivor-professional). From the content analysis we extracted four overarching themes: safety, help, fellow survivor support, and acknowledgement (Figure 1). An overview of the feedback for the SAFE intervention itself can be found in Appendix 3.

Safety

Survivors

Survivors discuss various aspects and contexts of safety. They want to be safe and feel safe, individually and with their children. They wish for (a) a safe space to live, (b) to know where they can go immediately if they are not safe; (c) protection during and after disclosing IPVA, and (d) help in reporting IPVA, in pressing charges, and leaving the partner. They discuss the fear of the partner finding out that they are looking for help.

> *204: "When something has happened and I want to leave or get help, you should tell me where to go and what to do. And that I would then indeed, preferably within 5 minutes, receive an answer with the possible options, such as I can go there or there right now, if it's really unsafe for me."*

With regard to an online intervention they want to have a safe environment with independent advice from people who have sufficient expertise. They need to know that the information they share is not forwarded to (government) organizations without their consent.

> *206: "Many women are actually scared of the consequences of doing anything official or going to an official agency. It must be clear that it remains confidential and that there won't be any notification. It should not be the case that if you're looking for help that someone will think 'oh, that is very serious, they really need help, I'll arrange that' (behind their back). That it remains in their own hands."*

It has to be clear that the intervention can be trusted. Being able to use it anonymously is important and it might also be safer since it can offer support without having to leave the house. A mobile phone is considered a safe device to use for such an intervention as you can always carry it with you and it can be locked.

Professionals

Professionals mention the need for a safe environment where women are welcomed without being judged. In order to create safety social isolation should be decreased, e.g. by stimulating women to share their story and by informing DV professionals about the existence of SAFE.

> *103: "I've noticed that in such a situation they are completely isolated from the outside world. They don't have any friends and only have sporadic contact with their family. To prevent relapse, I would raise publicity for this [SAFE] in the shelters, children's health clinics, and also in women's organizations."*

Professionals insist that the usage of an eHealth intervention depends partially on the women's circumstances. If the woman's life does not have a basic structure and routine, she will not be able to fit the internet-based offer into her life.

Survivor-professionals

Survivor-professionals specifically mention concerns of personal safety, safety of the children and dependents and identification of trustworthy supporters. Survivors can struggle with (feelings of) unsafety after leaving the abusive partner.

> *101: "With the knowledge I have now, I'd be thinking about how to get out safely, with my children. Who believes me, who can I trust? Because it can be hard when Child Protective Services [CPS; in Dutch: Jeugdzorg] argues the child has the right to remain contact with the father. You're totally burnt out, terrified of your ex, and you think 'my children shouldn't go there', but they will. It drives you insane."*

Survivor-professionals confirm the need for a safe online environment, without judgment, recognizable for women in various IPVA situations and ideally accessible by mobile phone. Like the professionals, they mention the influence of personal circumstances on (online) help seeking behaviors.

> *202: "For someone to feel safe enough to participate they need some peace and quiet, a safe environment. Also mentally, you have to be open to it. I think the prerequisites are acknowledging that you have a problem and some level of safety."*

Acknowledgement

Survivors

Survivors say that the abuse, especially psychological and emotional abuse, gradually creeps in. It's not until later or after leaving the abusive relationship that they realize what happened.

> *201: "He made me totally dependent on him. I've stood on my own two feet ever since I was 17 years old, paid for my tuition and worked two jobs. I was never dependent on a man. But it creeped in. So bizarre. I could only see it in hindsight, due to therapy."*

Acknowledgement from others is important. This happens through contact with other women and survivor-professionals who have experienced IPVA, who understand and offer support. Acknowledgement can, furthermore, come from professionals that identify and verbalize the abuse taking place and that support accordingly.

Survivors say that acknowledgement and validation led them to be aware of their own situation. It helped them in gaining clarity and in reflecting, for instance on the unhealthy relationship dynamic and red flags. Acknowledgement and awareness are necessary to leave the violent situation and seek help. Furthermore, it is a sign that they are not alone in their experience with IPVA.

> *201: "Survivor-professionals and fellow survivors have been really helpful. Normal people who've also dealt with such an idiot. Acknowledgement, recognition, it's very important. If I'd had an app like SAFE at the time, maybe I would've left him after a week of living together."*

Professionals

Recognizing IPVA is not as easy as people may think, say the professionals. However, identifying it is very important as it is the first step towards help and many women don't recognize it for prolonged periods of time. This can be related to stereotypical images of IPVA, e.g. as a solely physical phenomenon, that are not applicable for many women.

> *103: "But you only start searching when you recognize it. And in my experience, 9 out of 10 times they only recognize it when it's almost too late."*

105: "I also think of nuance. So not the traditional 'dominant, dangerous man abuses defenseless, pathetic woman'. That's still kind of the image people have of domestic violence but it's not congruent with reality. I suspect many women do not identify with that image. And I think many women want the violence to stop but they don't want the relationship to end. So nuance is important."

Professionals say that the message that needs to be conveyed is: what IPVA is; that violence and abuse are not acceptable; that they are not the only ones experiencing it; that it happens at all levels of society; and that they shouldn't be ashamed of it. Professionals talk about recognizing and respecting someone's emotional process but they stress avoiding a perception of victimhood. Survivors should be empowered.

103: "I'd address women in an empowering manner. You are beautiful as you are and no one is allowed to hurt you. No one has the right. That they really understand this is bad for them. Address them in an empowering way, like 'every woman is powerful'."

They underline the need to speak to different women experiencing different forms of abuse to facilitate identification.

105: "Look, regarding partner violence women say: No, that's not what's happening here. But if you were to ask 'Do you sometimes feel unsafe in your relationship?', more women acknowledge that. It's important to emphasize that you don't have to be beaten up on a structural basis. It can also be about not being allowed to freely express your opinion."

Survivor-professionals

Survivor-professionals say that looking back they knew something was wrong but at the time they couldn't recognize it. They didn't have that knowledge on IPVA, sometimes thought there was something wrong with themselves, they hoped it wouldn't happen again, and didn't know if and where they should look for help.

202: "I knew about it, in theory. I knew of women whose passports had been taken from them and were not allowed to do anything, who were not allowed to leave their house. I knew that those women are survivors. But I thought, I work, I have everything under control. I thought: I'm not a victim."

102: "I didn't know any of this, not the pattern, not the behaviors. I thought I was difficult. So you don't look for help because you don't know what you're looking for."

Acknowledgment is the first step in disclosing IPVA and seeking help. Ultimately, women need to acknowledge their situation to realize their own options for changing it. The role of professionals is to recognize and understand survivors' needs and wishes and their dilemmas in leaving their partner.

108: "A professional is more eager to say you should leave. While the first steps are making sense of it in your head and sharing your story. I think the website shouldn't propagate leaving. They will get defensive or resist if they feel pressured. And if they then still decide to stay, I think they should be able to find options about what they can do to make their situation more bearable."

Fellow survivor support

Survivors

Survivors experienced more understanding from fellow survivors and survivor-professionals compared to people who haven't experienced IPVA. Survivor networks provide support, opportunity to share and the intrinsic knowledge that your counterpart can empathize. The survivors suggest a chat and a buddy system for support and advice.

201: "I would've found it very helpful if someone had been there, a woman, who just understands and explains the steps [how to find a lawyer, housing etc.]. It's in the app but you still have to make the call. Except I can't call, I'm just crying. You need someone who believes you and picks up the phone for you."

208: "If something's on your mind, you can share it with the group. You receive reactions from people who've experienced it. Because the family doctor and professionals really don't get it and you can never immediately get an appointment. In a Facebook or Whatsapp group you sometimes get a response within a minute, and that's just great."

However, contact with fellow survivors can be a negative experience as well: the stories can be re-traumatizing; there can be mismatches in experiences or beliefs; and support or advice are sometimes negatively criticized by other survivors.

203: "Some people sink their teeth into it, they don't recover, they get stuck. They will take on the victim role, cause friction, anger, and even depression. They really get depressed because they spend too much time in those Facebook groups."

Professionals

Professionals also find this type of contact important for survivors. It helps with disclosing and acknowledging IPVA, as well as with breaking taboos and encouraging action.

103: "Imagine this, I'm past the threshold of denial and I'm with a professional, but they say I'm part of the problem. I've noticed that women don't like that, stuff like 'you could've left' or 'how could you let this happen?'. You know, that type of judgment. That's not what they need and maybe survivor-professionals are more emphatic and understanding in those situations."

The professionals state that negative interactions can occur with this type of contact: stories can trigger negative emotions and loss of hope; development of unhealthy friendships; and comparison of suffering (minimizing other people's experiences). Furthermore, professionals urge that this contact should not limit women to a survivor role.

103: "Yes, there's often a need for it. But what I do notice is that they search for the superlative degree. 'You also experienced that? Yes but I... You had one black eye? Well, I had two'. You know like that, so they reinforce each other."

107: "You could encounter an undesirable dynamic. Often times it's people who have no social network. I felt that especially people with psychological problems were overrepresented somewhat, which can really leave its mark. For example someone in a chat saying 'no one listens to me, well then I'll just go cut myself'. How do you respond to something like that?"

Survivor-professionals

Survivor-professionals agree with survivors and professionals on the importance of contact with fellow survivors. It prevents or decreases social isolation, shame and loneliness. This type of contact can be empowering and motivating to take action.

101: "Survivors understand that you can act crazy. They understand why, because of trauma, and they don't judge. People who've never experienced it don't really know anything. They think 'stop being nervous, why are you acting weird', you know."

Survivor-professionals also acknowledge survivors can place excessive focus on their respective negative experiences. They state it may sometimes be better to speak with an survivor-professional instead of a fellow survivor, as survivor-professionals received training to prevent these negative interactions.

> *102: "The advantage of talking to a survivor-professional instead of to a survivor is that you don't become completely mixed up in each other's stories. You shouldn't dwell on negative aspects of your experience. That tends to happen with survivors if they constantly talk to about the negatives. You should work towards processing it."*

Help

Survivors

Survivors express a need for tangible help that is congruent with their needs. Women need to know the exact steps they have or can take to leave the violent situation and / or to get help. These have to be explained in short and simple non-pressuring language. They want an overview of tangible help options.

> *201: "I always told my psychologist I need a step-by-step guide. Like, say I have to paint a strip. What do you need to do first, you have to sand it. Okay, sand it first. Then you need to clean it, remove dust. Then degrease it and then prime it. Those kinds of steps."*

Furthermore, it is important to consider practical help as well. Women don't only need legal and psychological help, they also need: shelters, help regarding finances, jobs and housing, and tips about stress relief. Survivors also mention buddies (survivors(-professionals)) as possibly helpful to support women in navigating help options and utilizing them.

> *207: "I'd hidden my credit cards etcetera in my neighbors closet. You know, they take everything away from you to isolate you. But he couldn't get to those things, because I'd hidden them. So you need practical tips, for example about arranging things with the bank. Many women have no clue about this."*

Help from someone who understands what they've been through, for example a survivor-professional, is preferred. Official DV services and youth services are frequently not trusted by survivors. Some have negative experiences with professional help. For example, they speak of a lack of expertise and understanding, not being taken seriously, professionals telling them they can't do anything to help (unless they agree to certain conditions), waiting lists, and a lack of a good fit between help and the woman´s needs.

205: "I didn't want to press charges. I was scared, I knew he had a lot of connections. So hiding in the Netherlands with the kids didn't feel safe. I wasn't allowed to go abroad on account that my kids were under 12 years of age. The police was quick to say 'We've offered you this, you can press charges. We can't help you if you're being difficult'."

Professionals

Access to tangible help is important and survivors need to know where they can find it. Women should be approached with simple, non-pressuring, non-judgmental information and help options. It should stimulate women to think about what they want and be applicable to various situations of IPVA and needs of survivors. However, one expert acknowledges that help from survivor-professionals could be a better fit with the woman's initial needs, as they tend to be more emphatic and understanding and give survivors time to tell their story. Professionals tend to take action and provide help and advice quickly, which might not correspond to the woman´s needs. They also point out that some professionals can be judgmental or pressure women towards leaving a violent partner. This can lead to negative experiences with professional help.

105: "Women don't have to put up with it but they also don't have to leave straight away. Ask them what it is they want. 'You can work things out together' is a very different message than 'run for your life'."

Some professionals use eHealth for their own clients, as an addition to face-to-face sessions. It can improve efficiency and optimize the necessary time commitment of both professional and client. Clients have the option to observe and reflect on certain things themselves and subsequently discuss it with the professional.

107: "For us, it [online help] is additional to the offline help. There are parts that people can do themselves that you hardly need to follow up on. As long as it doesn't touch upon the emotion or trauma, they can of course do many parts themselves."

Survivor-professionals

Similar to the survivors and professionals, survivor-professionals stress the importance of knowing which steps need to be taken to leave a violent situation; help options; and a sensitive, understanding approach. Survivor-professionals (for example buddies) could help in guiding women in these situations as it can be overwhelming and it involves uncertainty and grief. They agree on the notion that their group tends to be more emphatic and patient, and less action oriented than professionals.

102: "At the beginning you can't see the wood for the trees. So you have to provide guidance, a step by step plan. Put survivor-professionals in the database, they know what it entails. That really is a must in my opinion. Even good psychologists encounter problems with it if they have no personal experience [with IPVA]."

Survivor-professionals add that attention should be paid to various life dimensions (e.g. personal, relationships, health) as well. Women need this, but professionals don't always assess these needs.

202: "Those life domains, that's good. I just had one issue: my ex. But often times others struggle with illiteracy, financial problems, relationship problems, you know. It all comes together. In the shelter they try to empower women at all levels to get them to be self-sufficient, like housing, finances, raising the children. Financial problems can evoke stress which may turn into violence. It is all intertwined."

Furthermore, some survivor-professionals had negative experiences with professionals with regard to judgment and a lack of expertise and understanding. One survivor-professional argues that it is essential that the professional and the survivor analyze the IPVA situation (including perpetrator characteristics) in order to tailor the help to the woman's specific context.

202: "If you think you're dealing with domestic violence, you have to analyze the situation first. Because a narcissistic perpetrator isn't the same as mutual violence. That really is far more complex. If you know nothing about this then... Like me and the professionals involved, we completely misjudged who we were dealing with."

One survivor-professional declares that partly because of her partner being diagnosed with borderline and a personality disorder professional help advised her not to leave him.

101: "I went to an organization with a Christian background for psychological help. They said I couldn't divorce him. Because it's a sin, of course, but also because if I left him it would break his safe space, and he couldn't handle that. So I waited for a while longer before I finally left."

Deepening the results

Variations in perceived importance and priority of needs and obstacles between the three groups became visible while assessing the content and how many times a certain concept was mentioned during the interviews. Some needs and obstacles are mentioned by only one or two groups, which makes for interesting nuances in perspectives.

Survivors and survivor-professionals

Survivors and survivor-professionals both mention trust, however professionals don't. Trust was discussed in the context of their social network, in professionals, and in using SAFE.

> *101: "When my husband and I went to the family doctor, he was very charming and interesting. And I was being extremely nervous, so guess who was the problem. The family doctor didn't help me at all and so you lose confidence in the health care system. You don't go there anymore. I didn't talk to people around me either because my social network consisted of religious people telling me I wasn't allowed to divorce him."*

They also bring up various obstacles in seeking help that professionals do not mention: children, practical problems, and loyalty or love.

> *108: "Eventually, I noticed that it was affecting my children. They were anxious too. I didn't want to co-parent because I thought it wasn't good for them. So I ended up going back to him because of the children. At the time I didn't know about hiring a lawyer. When I closed the door behind me, my son said: 'Mom, that's the stupidest thing you have ever done'."*

> *202: "I struggled with it for a long time. Because you want him to have a role in the children's upbringing. You don't want to turn him in, he's their father after all."*

Professionals and survivor-professionals

Professionals and survivor-professionals both mention not wanting to be treated as a victim as a barrier to seeking help, this was not mentioned by survivors.

> *101: "Harsh terminology can shock you, we use the terminology: victims of domestic violence. That's quite a harsh approach, you don't want to be a victim of domestic violence. So you have to get used to that before you... although, you do want to present a clear image of who you are."*

Misinformation is also mentioned by both these groups as an obstacle. For example regarding expectations of professional help or as a control tactic by an abusive partner.

107: "What happens if I press charges? It means you request the police to prosecute someone. But it doesn't mean that will actually happen. Especially when it involves domestic and sexual violence, there's enormous friction for those women. Explaining this well helps. You shouldn't discourage them but you have to be honest."

Survivor-professionals

Only survivor-professionals mention religion and malfunctioning electronics as obstacles. However, religion was only discussed in one interview.

101: "I would add something on harmful traditional practices for people who are very religious. There are a lot of Christian people who are hard to reach. Women won't leave, they can't. They stay there till they die."

Professionals

Out of all the interview participants, only one professional mentions privacy legislation.

107: "I think many people like something like Whatsapp. Of course you have to navigate the GDPR [AVG in Dutch], which is very difficult."

SAFE specific feedback

Furthermore, all groups proposed feedback specifically for the SAFE intervention (Appendix 3). The groups mention 11 similar point of feedback, but each group also points out unique features. Professionals offer 3 unique points of feedback, while survivors and survivor-professionals each offer 10 unique points of feedback. For example, only professionals talk about how the intervention being completely online is safer than having to put things on paper. Survivors are the only ones who talk about how contact must feel like real contact, not like talking to a robot. And only survivor-professionals mention how it is important to include various life domains, such as finances and housing, in the intervention.

Discussion

This is the first study to examine not only the needs, obstacles and wishes of survivors with regard to eHealth for IPVA but to also include professionals' insights and the unique perspective from a hybrid type of involved party: survivor-professionals. Our results show that these three groups are largely congruent in their feedback on what women in IPVA situations need and what obstacles they face. However, there

are differences between the groups, showing that the survivor-professionals are a separate category next to survivors and professionals that should not be excluded from target group-oriented participatory research.

All groups largely agree on the importance of safety, acknowledgement, contact with fellow survivors, and help. They mention the importance of tangible help options, acknowledgement, and an approach that is sensitive to various experiences of IPVA, with matching information and help options. Furthermore, they state that providing contact options with survivors and (survivor-)professionals is vital. With regard to technical aspects they talk about safety measures, anonymity and easy access. This is consistent with findings from qualitative studies on online help and IPVA or dating violence in Australia (Tarzia, Cornelio, Forsdike, & Hegarty, 2018; Tarzia et al., 2017) and the United States (Lindsay et al., 2013): women view an app or website as an appropriate way to seek help in IPVA situations, with the appealing possibility of 24/7 easy access and anonymity.

However, the groups appear to differ in their prioritization of needs and obstacles. When describing needs, for survivor-professionals and survivors the primary discussion topic was safety, while for professionals it was acknowledgement. This might be explained by differences in personal involvement in IPVA. Survivors and survivor-professionals share a personal experience of IPVA, which may highlight their prioritization of feeling and being safe (Ten Boom & Kuijpers, 2012). Professionals on the other hand want to help women to self-acknowledge their situation and design an online intervention that survivors can identify with. This appears as a result- and solution-oriented approach, which complies with claims from the interview data that professionals are often quick to take action and provide advice, their training in actively helping people, and the belief that the first step of help seeking is acknowledging the situation you are in, as professionals have learned from applying the Stages of Change model (Frasier, Slatt, Kowlowitz, & Glowa, 2001; Zink, Elder, Jacobson, & Klostermann, 2004). With regard to safety and help, survivor-professionals and professionals insist there must be some safety and peace to use an eHealth intervention. Survivors on the other hand, express a need for acute help. Since an eHealth intervention may not always be suitable to that need, it is important to manage survivors' expectations and provide options for acute help.

A unique aspect mentioned solely by the survivor-professionals was the focus on various life domains, such as financial situation, housing, and child rearing. These components are often overlooked in online interventions for women exposed to IPVA but are very important (Rempel, Donelle, Hall, & Rodger, 2019). Rempel and colleagues (2019) state

that existing online interventions mostly focus on safety planning. While safety is crucial, they stress that women also need support with regard to housing, finances, child care etc. to help them move from the abusive relationship and sustain their independence.

With regard to obstacles, both professionals and survivors discussed a lack of connection the most. For the survivors, this might have been a serious obstacle in their own experience with IPVA and help seeking. For the professionals, connection is important but from their own perspective, which means that it can represent an obstacle they face themselves when trying to build rapport. Connection difficulties might be a mutually experienced phenomenon due to the emotional difficulty, stigma, frequent denial and the long process of gradual acknowledgement and change. For example, survivors may feel victim blamed by professionals (Crowe & Murray, 2015), and professionals may struggle with their own hesitations and biased perceptions regarding IPVA, such as who's responsibility it is to intervene and who is perceived as a 'credible' survivor (Robinson, 2010; Virkki et al., 2015). Both may experience differences in understanding the situation and necessary actions, for example in risk assessment (Cattaneo, 2007), which can make for a challenging interaction and help process.

Although all groups see the benefits of (survivor) support networks, for example in increasing acknowledgement and safety and decreasing social isolation, especially the survivor-professionals highlighted the importance of negative interactions with fellow survivors. This may relate to complicated previous experience with fellow survivors, as negative social reactions can have an adverse impact on survivors' mental health (Sylaska & Edwards, 2014). This stance by professional-survivors highlights the professional distance and skills they acquired through their training and their added value as a bridge between professionals and survivors (Storms, Andries, & Janssens, 2020; Van der Kooij & Keuzenkamp, 2018).

Structurally, the survivor-professionals emerged as a hybrid and yet unique group, combining personal experience and expert knowledge. Investigating them highlighted the nuances in priorities and perspectives between the different stakeholders involved in the support of IPVA survivors. Considering these differences is essential in developing a tool that can serve both survivors and the community that supports them. As an eHealth intervention takes on a (professional) supportive role, while still allowing survivors to share their experiences with each other without external guidance, it will have to reproduce some of these nuances. The eHealth platform might in itself represent a hybrid function (Kreps & Neuhauser, 2010; Kuenne & Agarwal, 2015; Vollert et al., 2019), thus, the acknowledgement and careful consideration of this input is essential.

Strengths and limitations

A strength of this study lies in the sample consisting of three groups, providing unique perspectives. Furthermore, the sample includes participants with a variety of experiences with IPVA and (professional) help, and a variety of participating organizations from various regions in the Netherlands. The selected sample covers a broad age range and variety in educational level, as well as women with and without children.

Limitations of this study include a lack of variation in cultural and religious backgrounds, as many participants are white and atheist or Christian. Moreover, the sample largely consisted of heterosexual women. They all seemed to have easy access to the internet and at least a basic level of digital literacy. This could be different for certain (small) groups in the Netherlands, although the vast majority of the Dutch population has access to the internet and is digitally literate, resulting in potential limitations in access that stay hidden in this study. Currently, we are conducting a study with women with migrant backgrounds to explore these issues. As we know IPVA occurs in all layers of society and in various types of relationships, a more diverse sample is recommended in future studies. Furthermore, the contents of the interviews disclosed the survivor or professional status of participants and this might potentially sharpen differences between these groups which we would not necessarily have found without this disclosure. In developing SAFE, attention should be paid to diversity on various levels to match with various groups of women who experience IPVA. We should also acknowledge men as survivors of IPVA and their diverse backgrounds and experiences. They could possibly benefit from an eHealth intervention as well.

Implications

Online interventions for women experiencing IPVA should be developed in a participatory manner involving individuals, who have diverse firsthand experience. Survivors, survivor-professionals and professionals are groups that offer valuable real-world insights essential for enhancing help options for IPVA survivors and in creating a successful eHealth intervention. In (professionally) supporting IPVA survivors, we need to acknowledge that perspectives from survivors, professionals and survivor-professionals can differ. For example, professionals should be aware of the survivors' need for direct, practical help and with regard to support from fellow survivors, we need to consider that this support could be more helpful for survivors when it is monitored on a platform by people who (also) have professional knowledge on IPVA. The results from this interview study were used in the development of the SAFE intervention (van Gelder et al., 2020). For the aforementioned examples this

means that we have included community managers with professional knowledge on IPVA that monitor the interactions between survivors and who can intervene when necessary. Also, it means SAFE includes help options that offer the direct, practical help that survivors are looking for and, for safety, an escape button that immediately closes the intervention and shows a neutral website. Future research includes quantitative and qualitative evaluations with survivors who use the SAFE the intervention. Our study supports the need for an eHealth intervention like SAFE and the importance of involving diverse groups in developing interventions, including hybrid groups like survivor-professionals, which blend different experiences.

Tables and figures

Table 1. Outcomes of online interventions for women exposed to IPVA.

Authors	Intervention
(Glass, Eden, Bloom, & Perrin, 2010)	Computerized safety decision aid (USA)
(Constantino et al., 2015)	HELPP (USA)
(Eden et al., 2015)	IRIS (USA)
(Koziol-McLain et al., 2018)	*isafe* (NZL)
(K. Hegarty et al., 2019)	I-DECIDE (AUS)
(Ford-Gilboe et al., 2020)	iCan Plan 4 Safety (CAN)

Abbreviations: RCT = randomized controlled trial, PTSD = post-traumatic stress disorder.

	Outcomes
	Evaluation study: The intervention decreased decisional conflict and increased feelings of support in the safety planning process.
	RCT: HELPP decreased anxiety, depression and anger. It increased personal and social support. HELPP online proved to be more effective than HELPP face-to-face.
	RCT: IRIS decreased uncertainty, feeling unsupported, and decisional conflict with regard to personal safety, more so than for the control group.
	RCT: *isafe* reduced violence and symptoms of depression for Maori-women. Non-Maori women did not experience this. Both the intervention and control group found *isafe* useful.
	RCT: No difference was found between the intervention and control group. Women in both groups reported increased self-efficacy and decreases in depression and fear of partner. Process evaluation: Both groups experienced increased awareness, self-efficacy and perceived support.
	RCT: Women in the intervention and control group experienced decreases in depression, PTSD, coercive control and decisional conflict. They experienced increases in helpfulness of safety actions, confidence in safety planning, social support and mastery (control over own life). Process evaluation: All participants reported high levels of benefit, safety, accessibility of the interventions, and low risk of harm. Women were more positive about helpfulness and fit when they received a tailored intervention.

Table 2. Demographic data and IPVA experiences from study participants.

Participant	Age	Occupation sector
101 – S-P	41	Paid employment (business)
102 – S-P	33	Freelancer
103 – P	44	Freelancer
104 – S-P	48	Public sector*
105 – P	38	Public sector*
106 – P	47	Freelancer
107 – P	52	Public sector*
108 – S-P	47	Public sector*
201 – S	50	n/a
202 – S-P	52	Public sector*
203 – S	48	n/a
204 – S	22	n/a
205 – S	46	n/a
206 – S	34	n/a
207 – S	48	n/a
208 – S	51	n/a

Note: P = professional, S = survivor, S-P = survivor-professional; *E.g. police, healthcare, education; **1 = physical, 2 = psychological, 3 = sexual, 4 = economic; ***a = GP practice (incl. psychological support), b = psychologist and psychiatrist, c = social worker, d = relationship therapist, e = DV/IPVA organization.

Educational level	Children	IPVA type**	Professional help***
Vocational education	Yes	1,2,3,4	a,b,c,d,e
Higher vocational education	Yes	1,2,3	a,b,d
University	Yes	n/a	n/a
Postdoctoral	Yes	1,2	c
University	Yes	n/a	n/a
University	No	n/a	n/a
University	Yes	n/a	n/a
Secondary school	Yes	1,2,3,4	b,c,d
Higher vocational education	Yes	1,2,3,4	b,d
University	Yes	1,2	a,c,e
Higher vocational education	Yes	2	a,b,c,d
Vocational education	No	1	b,e
Vocational education	Yes	1	a,b,e
Vocational education	Yes	1,2	a,b,e
University	No	1,2,3,4	c
Vocational education	Yes	2	a,b,e

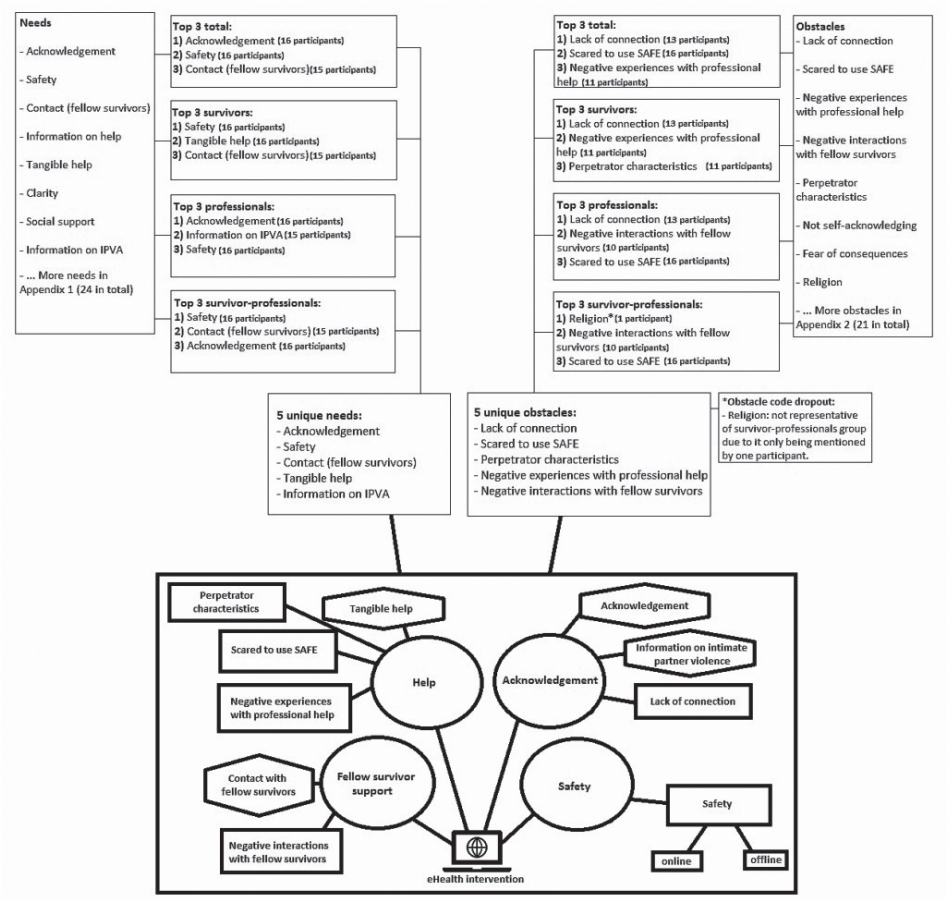

Figure 1. Main themes, categories and codes.

Note: circles are themes; rectangles are codes from the obstacle category; hexagons are codes from the needs category.

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Supplementary materials

Appendix A – Needs

Table A1. Overview of all codes in needs, ranking per group and in total.

Need	Survivors	Professionals	Survivor-professionals	Total
Acknowledgement	47 *(3)*	48 *(1)*	43 *(3)*	**138**
Safety	66 *(1)*	19 *(3)*	49 *(1)*	**134**
Contact (fellow survivors)	44 *(4)*	9 *(12)*	46 *(2)*	**99**
Information on help	42 *(5)*	18 *(4)*	39 *(4)*	**99**
Tangible help	62 *(2)*	12 *(8)*	21 *(10)*	**95**
Clarity	41 *(6)*	14 *(6)*	28 *(7)*	**83**
Social support	40 *(8)*	11 *(10)*	32 *(6)*	**83**
Information on IPVA	20 *(12)*	22 *(2)*	37 *(5)*	**79**
Accessibility	41 *(7)*	14 *(7)*	23 *(9)*	**78**
Anonymity	26 *(9)*	11 *(11)*	18 *(12)*	**55**
Control	21 *(11)*	12 *(9)*	20 *(11)*	**53**
Need for SAFE	16 *(14)*	9 *(13)*	15 *(14)*	**40**
Awareness	7 *(18)*	18 *(5)*	14 *(15)*	**39**
No judgement	3 *(21)*	6 *(18)*	27 *(8)*	**36**
Language use	17 *(13)*	8 *(14)*	7 *(19)*	**32**
Trust	24 *(10)*	0	5 *(21)*	**29**
Telling your story	9 *(17)*	7 *(16)*	12 *(16)*	**28**
Understanding	13 *(15)*	5 *(19)*	10 *(17)*	**28**
Well-functioning website	0	8 *(15)*	17 *(13)*	**25**
Expertise	13 *(16)*	2 *(20)*	6 *(20)*	**21**
Not being treated as a victim	0	7 *(17)*	9 *(18)*	**16**
Direct contact	7 *(19)*	1 *(21)*	2 *(22)*	**10**
Hope	5 *(20)*	1 *(22)*	1 *(23)*	**7**
Warm and inviting	2 *(22)*	0	0	**2**
Total:	**566**	**262**	**481**	**1309**

Note. The cursive numbers between brackets represent the quantitative ranking of the needs per group.

Appendix B – Obstacles

Table B2. Overview of all codes in obstacles, ranking per group and in total.

Obstacle	Survivors	Professionals	Survivor-professionals	Total
Lack of connection	28 *(1)*	15 *(1)*	9 *(6)*	**52**
Scared to use SAFE /ehealth	18 *(4)*	14 *(3)*	15 *(3)*	**47**
Negative experiences with professional help	22 *(2)*	8 *(5)*	15 *(4)*	**45**
Negative interaction with fellow survivors	12 *(6)*	15 *(2)*	17 *(2)*	**44**
Perpetrator characteristics	20 *(3)*	5 *(7)*	13 *(5)*	**38**
Not self-acknowledging	10 *(7)*	14 *(4)*	7 *(8)*	**31**
Fear of consequences	17 *(5)*	2 *(9)*	5 *(11)*	**24**
Religion	0	0	23 *(1)*	**23**
Lack of social support / isolation	9 *(8)*	1 *(11)*	9 *(7)*	**19**
Shame	6 *(10)*	6 *(6)*	4 *(13)*	**16**
(Suitable) Help not available	9 *(9)*	2 *(10)*	1 *(14)*	**12**
Children	5 *(13)*	0	7 *(9)*	**12**
Practical	6 *(11)*	0	5 *(12)*	**11**
Guilt	2 *(16)*	1 *(12)*	6 *(10)*	**9**
Distrust	6 *(12)*	1 *(13)*	1 *(15)*	**8**
Lack of privacy	3 *(14)*	3 *(8)*	1 *(16)*	**7**
Loyalty / love	3 *(15)*	0	1 *(17)*	**4**
Misinformation	0	1 *(14)*	1 *(18)*	**2**
Privacy legislation	0	1 *(15)*	0	**1**
Malfunctioning electronics	0	0	1 *(19)*	**1**
Gloom / giving up	1 *(17)*	0	0	**1**
Total:	**177**	**88**	**141**	**406**

Note. The cursive numbers between brackets represent the quantitative ranking of the obstacles per group.

Appendix C – Specific feedback for SAFE intervention

Table C3. Needs, obstacles and feedback specifically for SAFE intervention.

Escape button: good for (feelings of) safety.	P ☑ S ☑ S-P ☑
Safe usage: explanation of how to delete browser history and use incognito mode.	P ☑ S ☑ S-P ☑
Safe means of communication with participants.	P ☑ S ☑ S-P ☑
Approach: women have to recognize themselves in the way SAFE approaches them, in the presentation of information and experiences from survivors. Discuss abuse, feeling unsafe or unsure, various types of violence and abuse. Avoid stereotypical, black and white messages.	P ☑ S ☑ S-P ☑
Diversity: consider diverse IPVA situations that women can identify with and cater to a variety of needs. E.g. a checklist, examples of behavior that portrays various types of IPVA.	P ☑ S ☑ S-P ☑
Interactive: a chat, forum, and short movies with survivors are good additions.	P ☑ S ☑ S-P ☑
Chat and forum: important to provide, it could be helpful for some women in sharing their story. Women should be able to use it **anonymously**. Make sure to monitor and quickly stop negative interactions, perhaps provide an ignore / report option. A chat is a fast and easy way of communicating. The chat could be available **24/7**, as some survivors might want to chat during the night, even if you can't monitor 24/7. However, be cautious with women getting dependent on it or focusing so much on helping others that they forget about themselves.	P ☑ S ☑ S-P ☑
Tangible (professional) help and tips: to refer to via a database. Provide an overview of tangible help options (incl. links to their websites, how to contact them etc.) with filters for types of help and region. Include survivor-professionals in this overview. Also, provide information on what you can expect from certain types of help. Furthermore, provide tangible tips on practical issues, e.g. when a survivor's preparing to leave the violent partner.	P ☑ S ☑ S-P ☑
Dissemination: disseminate the existence of SAFE so it's easy to find. E.g. through DV and mental health organizations, women's organizations and the consultation bureau for infants and toddlers. Professionals should know SAFE as well in order to refer their patients / clients.	P ☑ S ☑ S-P ☑
Thresholds: for using SAFE may be not wanting to feel like a victim or not identifying with the image of IPVA. Another threshold can be the **corresponding RCT study**. It is important to give participants the option to be anonymous and to let them know what happens with personal information and data. Another threshold can be the **fear of the (ex-)partner finding out** that they use SAFE or encountering their (ex-)partner on the website.	P ☑ S ☑ S-P ☑
Feeling safe: to use the intervention depends on being able to use it anonymously, and on safety measures. E.g. an escape button and measures regarding browser history. It also depends on being able to stay in control (help is organized at their own initiative) and on perpetrators not being able to gain access.	P ☑ S ☑ S-P ☑

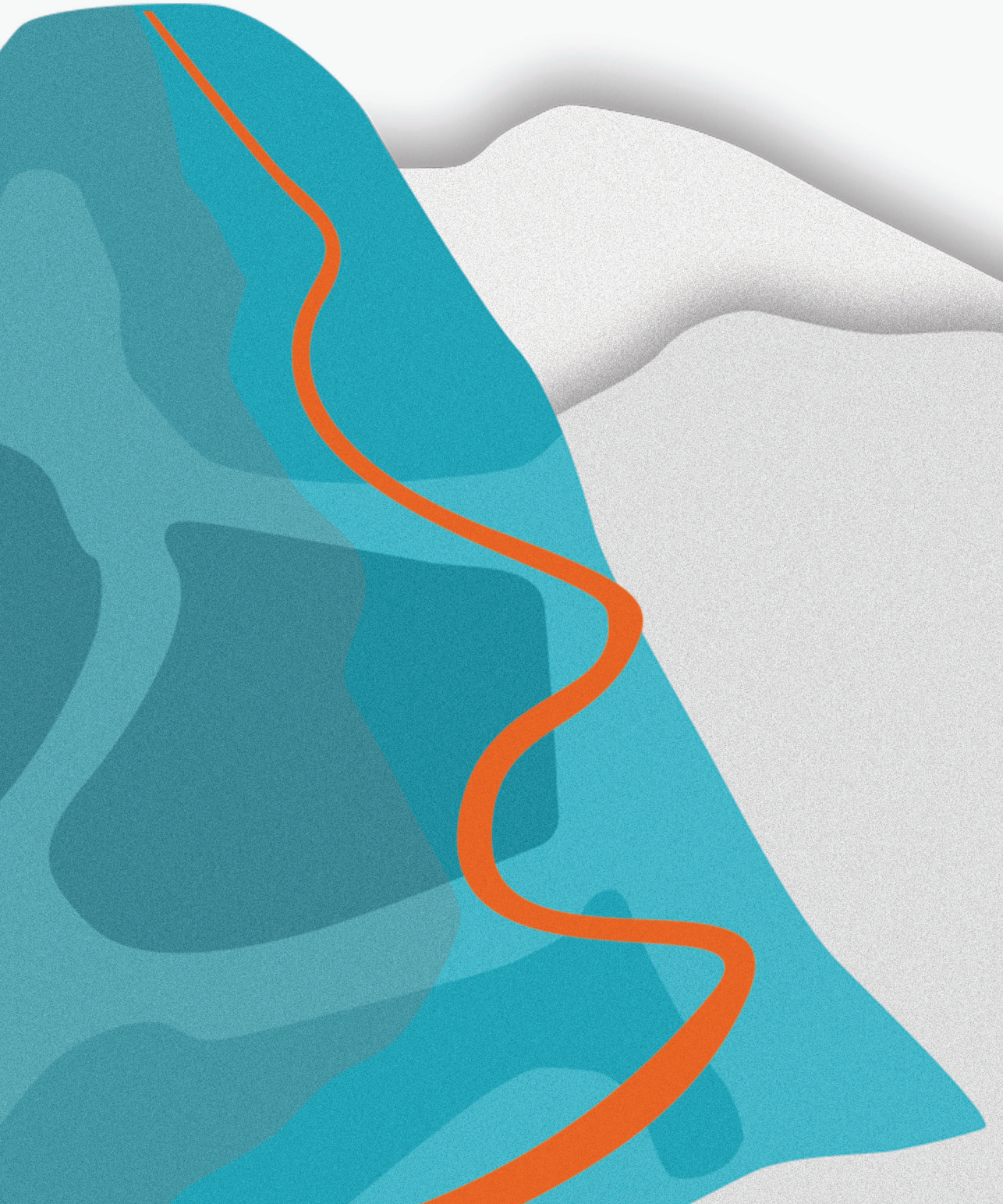
Table C3. Continued

Publicity: SAFE has to be known in society as a help option when dealing with IPVA.	P ☑ S ☑ S-P ☐
Screening: of all registrations as a safety measure and to avoid (ex-)partners who try to infiltrate. Be aware of hacking.	P ☐ S ☑ S-P ☑
Emergency contact: only optional and participants decides when contact is permitted.	P ☐ S ☑ S-P ☑
Help options: should be broad so it connects with various needs that women may have. They have to be tangible and relevant for different types of IPVA situations. They should also entail options for contact with fellow survivors, survivors and survivor-professionals.	P ☐ S ☑ S-P ☑
Themed chats: with survivor-professionals and professionals are a good addition.	P ☐ S ☑ S-P ☑
Neutral appearance: it shouldn't be clear directly that it's about DV or IPVA.	P ☑ S ☐ S-P ☐
Completely online: the registration process, providing information etc. all takes place online. This is safer than putting it on paper, which is often the case in regular professional help.	P ☑ S ☐ S-P ☐
Problem solving skills: be careful with providing exercises, as it's not clear how this will be interpreted and put into practice, with possible negative consequences (violence escalating). Additional help options to guide women in using these tips and skills should be provided.	P ☑ S ☐ S-P ☐
Safety module: on being safe at home, which organizations can help you to be safe etc.	P ☐ S ☑ S-P ☐
Personal information from participants has to be protected.	P ☐ S ☑ S-P ☐
Digital diary: can be safer online than to have it lying around the house.	P ☐ S ☑ S-P ☐
Access: certain webpages should only be available for people who can log in.	P ☐ S ☑ S-P ☐
Awareness: educate women on what is (ab)normal and / or (un)healthy in relationships so they can recognize red flags in their own relationship.	P ☐ S ☑ S-P ☐
Children: educate women on the impact of IPVA on their children so they recognize IPVA is dangerous for their children as well.	P ☐ S ☑ S-P ☐
Free usage: participants should be free to use modules according to their own needs and at their own pace, not in a predetermined sequence.	P ☐ S ☑ S-P ☐
Real contact: it is important to have a sense of real contact, not as if you talk to a robot.	P ☐ S ☑ S-P ☐
Immediate danger: provide options for women who are in immediate danger.	P ☐ S ☑ S-P ☐
Contact: create safety, trust and warmth in contact with survivors, to prevent drop out.	P ☐ S ☑ S-P ☐
Personal information: gather as minimal as possible and declare it is stored safely.	P ☐ S ☐ S-P ☑
Private messaging: possibly helpful when some doesn't want to communicate in a group.	P ☐ S ☐ S-P ☑

Table C3. Continued

Safe appearance: background colors have to be inviting but shouldn't be too bright with regard to brightness from the screen when looking at it at night and someone noticing it.	P ☐ S ☐ S-P ☑
Information: has to be recognizable and tangible in order to be aware of your own situation and what steps you can take to get out.	P ☐ S ☐ S-P ☑
Search option: perhaps provide this to search within the website easily.	P ☐ S ☐ S-P ☑
Information: on types of IPVA but also on types of perpetrators.	P ☐ S ☐ S-P ☑
Life domains: provide information, advice and options for various life domains.	P ☐ S ☐ S-P ☑
Checklist: perhaps provide a test / checklist on the situation which, based on your answers, will then refer you to specific types of help and organizations.	P ☐ S ☐ S-P ☑
Logically structured: women have to know where they can start, how they can use SAFE, and where they can go if they want additional help or information.	P ☐ S ☐ S-P ☑
Safe space: it is important that SAFE is a safe, non-judgmental space for women to go through the process at their own pace.	P ☐ S ☐ S-P ☑

Note: P = professionals. S = survivors. S-P = survivor-professionals.



CHAPTER 3

SAFE: an eHealth intervention for women experiencing intimate partner violence – Study protocol for a randomized controlled trial, process evaluation, and open feasibility study.

This chapter is based on the following article: van Gelder, N. E., van Rosmalen-Nooijens, K. A. W. L., Ligthart, S. A., Prins, J. B., Oertelt-Prigione, S., & Lagro-Janssen, A. L. M. (2020). SAFE: an eHealth intervention for women experiencing intimate partner violence – Study protocol for a randomized controlled trial, process evaluation, and open feasibility study. BMC public health, 20, 640-648. doi:10.1186/s12889-020-08743-0

Abstract

Background: Intimate partner violence (IPV) affects almost one in three women worldwide. However, disclosing violence or seeking help is difficult for affected women. eHealth may represent an effective alternative to the standard support offers, which often require face-to-face interaction, because of easy accessibility and possibility of anonymous usage. In the Netherlands we are developing SAFE, an eHealth intervention for female victims of IPV, which will be evaluated in a randomized controlled trial and a process evaluation, followed by an open feasibility study to assess real-world user data.

Methods / design: The randomized controlled trial is a two-arm parallel design comparing an intervention arm and a control group. The groups both have access to eHealth but differ in the offer of interactive features compared to static information. Both groups complete questionnaires at three or four time points (baseline, three months, six months, 12 months) with self-efficacy at six months as the primary outcome, measured with the General Self-Efficacy (GSE) scale. The process evaluation consists of quantitative data (from the website and from web evaluation questionnaires) and qualitative data (from interviews) on how the website was used and the users' experiences.

Discussion: eHealth has the potential to reach a large number of women who experience IPV. The internet-based design can lower access barriers and encourage help-seeking behavior ultimately reducing the lag time between subjective awareness and protective action.

Trial registration: Trial registered on 15 August 2017 at the Netherlands Trial Register NL7108 (NTR7313), https://www.trialregister.nl/trial/7108

Background

Intimate partner violence (IPV) is any physical, sexual, psychological, or economic violence that occurs between former or current partners (WHO, 2013). While both men and women can suffer from IPV, the majority of victims are female. Worldwide almost one in three women experience IPV in their lifetime (Devries et al., 2013; FRA, 2014; WHO, 2013). Being a victim of IPV has numerous negative consequences at the physical, social and psychological level. For example, a higher risk of developing depression, anxiety disorders, and post-traumatic stress syndrome (PTSS) (Ellsberg et al., 2008; Rees et al., 2011). In addition, children exposed to IPV are at increased risk for developing trauma and are three times more likely to become a perpetrator or a victim of violence themselves (Attala, Bauza, Pratt, & Vieira, 1995; Carpenter & Stacks, 2009; Ehrensaft et al., 2003; Kitzmann, Gaylord, Holt, & Kenny, 2003; Sox, 2004; Widom, Czaja, & Dutton, 2008).

Women report major obstacles in disclosing IPV and seeking help. Delays in help-seeking are related to fear, shame, guilt, loyalty, children, financial dependency, not knowing where to go for help, and not subjectively identifying IPV as such. Attempts to overcome these barriers have had limited effects (Bair-Merritt et al., 2014; Feder et al., 2009; Feder, Hutson, Ramsay, & Taket, 2006; Hegarty & Taft, 2001; O'Doherty, Taft, McNair, & Hegarty, 2016; Ramsay et al., 2009; Reisenhofer & Taft, 2013; Taft et al., 2013). Even though the governmental and political efforts to decrease IPV and its detrimental effects have substantially increased over the last decades, there is still a need for effective interventions that can reduce the lag time between exposure and active help-seeking.

eHealth is becoming more popular in healthcare (Meier, Fitzgerald, & Smith, 2013; Schiavo, 2008; van Gemert-Pijnen, Kelders, Kip, & Sanderman, 2018). For potentially stigmatizing and traumatizing experiences, such as IPV, eHealth represents an ideal option because it is easily accessible, allows anonymity and thereby safety and does not require face-to-face contact (van Rosmalen-Nooijens, Lo Fo Wong, Prins, & Lagro-Janssen, 2017). It has the potential of reaching large numbers of women exposed to IPV. Some eHealth offers for women exposed to IPV have already been reported outside of Europa: I-DECIDE in Australia (Hegarty et al., 2015), *isafe* in New-Zealand (Koziol-McLain et al., 2018), IRIS in the United States (Eden et al., 2015), and iCAN in Canada (Ford-Gilboe et al., 2017). These interventions are completely online based, and all provide a (personalized) safety plan for participants and information on help for IPV. To our knowledge, no such intervention has been developed in Europe to date, although the prevalence rates do not differ from the rest of the world (FRA,

2014). To fill this gap, we developed an eHealth intervention in the Netherlands, SAFE, to be found at www.safewomen.nl. SAFE was inspired by I-DECIDE (Hegarty et al., 2015) and Feel the ViBe, a Dutch internet intervention for youth exposed to family violence (van Rosmalen-Nooijens et al., 2017). Furthermore, SAFE is based on available scientific knowledge and a national qualitative study on experiences from female survivors and IPV experts (van Gelder et al., forthcoming). SAFE will be evaluated through a randomized controlled trial, a process evaluation, and an open feasibility study.

Aims of SAFE: Effectiveness, process evaluation and feasibility

The SAFE randomized controlled trial (RCT) is designed to evaluate the effectiveness of an interactive intervention in increasing self-efficacy at six months in women exposed to IPV, compared to a minimal intervention. The secondary outcomes assessed are self-awareness, (mental) health symptoms and perceived support in women exposed to IPV.

The primary aim of the process evaluation is to evaluate the feasibility of SAFE with the following research question:

- Is SAFE a suitable tool to provide information and support to women exposed to IPV?

Firstly, we will discuss the study procedure of the RCT. Subsequently the process evaluation and the open feasibility study are described, followed by the discussion.

RCT methods and design

The RCT investigates two groups: the SAFE group, which receives the complete intervention, and the control group, receiving a minimal intervention as described below. The RCT has a parallel design with randomization balanced on age (18-30 years old and 31-50 years old). The study is conducted in the Netherlands and the intervention is only available in Dutch. The trial is registered at the Netherlands Trial Register (NTR) with trial ID NTR7313. The protocol is described conforming to the CONSORT EHEALTH guidelines (Eysenbach, 2011).

Sample size calculation

The sample size was calculated based on the primary outcome measure, the General Self-Efficacy Scale (GSE). In the general population, a mean score of 29.3 (SD 4.6) was described (Schwarzer & Jerusalem, 2010; Teeuw, Schwarzer, & Jerusalem, 1994). We measure GSE scores at T0 (baseline), T1 (three months), T2 (six months), and T3 (12 months). We consider a difference of at least two points relevant and to detect this difference, 85 participants will be needed (power = 80%, alpha = 5% two-sided testing) in each group at T2 (six months). If we apply an ANCOVA analysis with the T2 measurement as a dependent variable and correct for the T0 measurement, the sample size has to be adjusted with the factor $(1 - r^2)$ (89). With r as the correlation between T0 and T2. We use r=0.5 which translates into 64 participants in each group. We assume a relatively high attrition rate (35%) at T3. Such an attrition rate is common in eHealth research and similar designs (Eden et al., 2015; Eysenbach, 2005; Ford-Gilboe et al., 2017; Hegarty et al., 2015; Koziol-McLain et al., 2015; van Rosmalen-Nooijens et al., 2017). Therefore, we plan to include 99 participants in each group (198 participants in total) at baseline, with an observation period of six till 12 months. Participants included during the period April 2019 – March 2020 will be followed for 12 months, completing surveys at four time points (T0 – T3). Participants included in the extended inclusion period, due to high attrition and low response rates, April 2020 – October 2020, will be followed for 6 months and completing surveys at 3 time points (T0 – T2) in order to not interfere with the planned open feasibility study.

Inclusion and exclusion criteria

Inclusion criteria:

- identifying as woman;
- 18 – 50 years old;
- self-identifying as a victim of IPV;
- having access to a computer and internet connection.

Exclusion criteria:

- reporting no unhealthy or abusive relationship or experienced fear of partner in the past 12 months at T0;
- inability to read and understand the Dutch language (all outcome measures are in Dutch).

However, women who are over 50 or who experienced IPV or fear of partner longer than 12 months ago are given access to the control group version of the website. No data will be collected from the excluded participants.

Recruitment, inclusion and randomization

Participants are mostly recruited online, through social media, Facebook Ads and Google Ads. Several (mental) health organizations (e.g. general practitioners' offices, emergency rooms, physiotherapists, social workers) are contacted with information about SAFE and provided with a (digital) poster that can be shown in the waiting room.

Women interested in using SAFE must register online and give consent to participate in the study. Women read the patient information letter and check a box to give consent. This is followed by a mandatory 24-hour waiting period to ensure participants had sufficient time to contemplate participating in the study. After 24 hours they are asked to give consent for a second time and fill out the T0 questionnaires. Subsequently, after checking inclusion criteria, they are randomized automatically. A stratified (block size of four) randomization balancing for age will be performed (Figure 1). This random allocation sequence with age blocks is generated by the eHealth developer and a statistician. Randomization is single-blind to the participants but not to the researchers. Participants have immediate access to the website after completing the T0 questionnaires.

Intervention

Development

In the development phase we interviewed 16 women to explore wishes and needs as key elements for SAFE. The women were survivors of and/or experts on domestic violence (DV) and IPV. We also assessed women's needs concerning their safety when using SAFE (Gelder et al. forthcoming). With this input, together with other (scientific) sources such as the I-DECIDE study (Hegarty et al., 2015), we developed a prototype, which was tested in a focus group of previously interviewed women. The prototype was improved based on the feedback and tested again in a focus group, resulting in a definitive version of the intervention used in this RCT.

Structure of the intervention

The SAFE intervention contains various modules and means of contact. The full intervention consists of four modules (Table 1). The modules provide information, tips, and exercises. Information that SAFE provides is based on scientific research and on information provided by IPV and DV help or research organizations.

Community managers (CMs) manage the website and the registrations. Participants can use the website anonymously, for free, and as much as they want, without following a specific order as we take into account the differences in the individuals'

situations and needs. We do advise to start at the 'Start here' page where participants can find an explanation on how the website works. Furthermore, with a pop-up we advise on 24/7 help options in case of emergencies and on safely using the internet and SAFE.

CMs are (mental) health professionals or trainees supervised by (mental) health professionals. Participants can reach the CMs through e-mail, contact form, chat or forum. However, SAFE remains a self-support intervention, meaning the CMs do not initiate contact with participants, other than within the themed chats. Participants receive automated e-mails with a neutral name ("update from your menstrual calendar"), guiding them through the informed consent process and the questionnaires.

The website launched on April 1st 2019 and is locked during the RCT. Components that are still dynamic during the RCT are the chat, forum, pages with news and tips for books etc., and the help database. Bug fixes and downtimes will be registered.

Outcome-measures

Participants are invited to complete surveys at three or four points in time: at registration (T0), at three months (T1), at six months (T2), and at 12 months (T3; only for participants in the first inclusion group). A Web Evaluation Questionnaire is completed after one month and at T2. The primary outcome is self-efficacy at six months, measured with the General Self Efficacy Scale (GSE). This scale assesses perceived self-efficacy in coping ability and adaptation to stressful life events (Rensen, Bandyopadhyay, Gopal, & Van Brakel, 2011; Schwarzer & Jerusalem, 2010; Teeuw, Schwarzer, & Jerusalem, 1994). We hypothesize that the intervention group will score a higher mean self-efficacy score than the comparison group at six months post-baseline.

The secondary outcomes are anxiety and depression, awareness, perceived social support, fear of partner, and perceived support from the website (Table 2). Other outcomes are general characteristics, measured by the General Characteristics Questionnaire (GCQ) and masculinity-femininity and gender roles, measured with the Bem Sex Role Inventory (BSRI) (Bem, 1977; Hoffmann & Borders, 2001; Holt & Ellis, 1998). The impression and use of the intervention are assessed with the Web Evaluation Questionnaire (WEQ), including questions on relevance, language, lay-out, understandability, completeness, structure, findability and ease of use (Elling, Lentz, & de Jong, 2007).

Statistical analysis

Characteristics of the intervention and the comparison group will be assessed to study comparability of the groups. Missing data is expected to occur frequently in an internet-based self-support intervention because of loss-to-attrition. Missing data will be examined prior to analysis and the option of multiple imputation will be evaluated.

In the statistical analysis we will use an ANCOVA model and a Generalized Estimation Equation (GEE) model to analyze repeated measures. These models consider that the measures are clustered within a participant. The GEE model can test the difference in effect between the SAFE group and the Minimal Intervention group at different times of measuring.

As a sensitivity analysis, we will also perform complete case analyses. In both cases, we will use an ANCOVA analysis corrected for baseline to assess the intervention effect on short (T1) and long (T2 and T3) term. Following, we will look for the role of gender (derived from BSRI and General Characteristics data) as an outcomes modulator. Gender does not necessarily correlate with biological sex (Tannenbaum et al., 2019) and might be an independent predictor of outcomes (Pelletier et al., 2016). A p-value of <0.05 is considered statistically significant, based on two sided tests. Regardless of these formal significance levels, all results will be reported with corresponding p values to allow for situational judgment by the reader. All analysis will be performed is SPSS version 25.

A data management plan has been made which will be monitored independently to ensure safety of data and proper execution of the RCT. Personal information will be coded and the key to the code is only accessible for the project leader, the project coordinator and the research assistant. The quantitative data from questionnaires will be anonymized and other quantitative data as well as qualitative data will be pseudonymized. The data will be kept for 15 years.

Safety and security

In building the intervention, numerous safety and security issues had to be considered, at hardware and software, user and provider levels. Firstly, the website runs with software that is updated according to the latest security and privacy requirements. Data from participants is encrypted and safely stored on a separate, protected server. Only indicated/selected members of the research team can access the data.

Secondly, the website provides an escape button for participants to use when they have to exit the intervention immediately. Clicking on the escape button will close the intervention and open a neutral website. Also, tips with regard to safe internet use and erasing browser history are present. Thirdly, CMs all work according to a safety protocol, based on the national code on reporting domestic violence and child abuse (in Dutch: "*meldcode huiselijk geweld en kindermishandeling*" (Ministerie van Justitie en Veiligheid & Ministerie van Volksgezondheid, Welzijn en Sport, 2018; KNMG, 2019)) in case of an emergency (e.g. a participant contacting us saying she is in immediate danger). CMs are available on weekdays from 08:00 till 17:00. With pop-ups on the website we make sure participants know we are not a help hotline, nor can they reach us 24/7, instead we refer them to services that can be reached 24/7. Furthermore, e-mails are sent with a neutral name, thus they are not immediately identifiable as messages from SAFE. All features of the intervention were approved by the Arnhem-Nijmegen medical ethics committee. In case of an adverse event, this will be recorded and reported to the medical ethics committee and the sponsor.

Process evaluation methods and design

The process evaluation consists of several parts, with part one and two relying on data automatically collected from the website through surveys and website data, and part 3 consisting of a qualitative interview study among users.

First, we will evaluate the feasibility according to the following measures from Bowen and colleagues (Bowen et al., 2009): acceptability, demand, implementation, practicality, adaptation, integration, limited-efficacy testing. We will focus on intention to use, followed by an analysis of actual use and continued use. Quantitative data will be supported by qualitative information from the self-reported Web Evaluation Questionnaire (WEQ). Quantitative and qualitative measures of user satisfaction will help assess acceptability. Appropriateness will be evaluated comparing user wishes and needs, including safety, with expected goals as reported in the general questionnaire and WEQ. All quantitative data will be analyzed using mean differences between the intervention and control group. All qualitative data will be analyzed using a thematic coding approach (Ayres, 2014; Boyatzis, 1998).

Secondly, we will perform a mixed-method analysis of online data from chat, mail and forum from the first 18 months after starting the RCT. Website data will be linked to participants' characteristics using participant numbers and nicknames. To analyze the qualitative data we will primarily use an open thematic coding approach (Ayres,

2014; Boyatzis, 1998). Forum data will be chosen as the basis for qualitative analysis because of the wide range of subjects that we expect will be discussed on the forum. In addition to the thematic data approach, we will perform a word count in Atlas.ti (Scientific Software Development GmbH; Berlin, Germany) to analyze all text lines of online data.

Thirdly, we will analyze the experiences of the participants in semi-structured interviews. The interview guide will contain questions on how the participant first found SAFE, their experience of using it, features they liked and disliked, recommendations for improvements or changes, and their perceptions of how using the intervention had impacted on their mental health and safety decision-making and planning processes. Particular attention will be paid to how women maintained safety and confidentiality. All interviews will be tape-recorded and transcribed verbatim. Open thematic coding will be used to analyze the interviews (Ayres, 2014; Boyatzis, 1998).

Open feasibility study methods and design

The open feasibility study will take place one month after the RCT trial ends. The website will be open (no initial registration, informed consent and randomization procedure) for the public for a duration of three months. The lockdown of the intervention, safety measures and handling bug fixes are the same as in the RCT. The aim of the feasibility study is to create a real-world situation in which we can test the use of the intervention without the boundaries that an RCT trial poses for women wanting to use SAFE. Especially for this group, anonymity and easy access can be crucial for acceptability. The full intervention will be available and during the open feasibility study we monitor the attendance and usage of the website, e.g. how many people visit the website and what webpages do they visit. Women who want to use the chat and forum have to register (name, age, sex, experienced IPV (yes / no), reason for registering, email address, and password) in order to gain access. Community managers will monitor this process and activity on the website. The feasibility data from this study will be compared to the feasibility data from the RCT participants. Subsequently, this data will be used in further development and implementation of SAFE.

Discussion

eHealth interventions for women exposed to IPV have the potential to break barriers in disclosing IPV to healthcare professionals and escape the unsafe environment. Therefore, we developed SAFE as a new means of help for these women. We will evaluate whether SAFE is an effective intervention to increase self-efficacy in women exposed to IPV, to increase awareness and perceived support, and to lower (mental) health symptoms, regarding depression and anxiety, in women exposed to IPV. Furthermore, we evaluate the feasibility of SAFE in a study and real-world setting.

However, there are some limitations to this study. For example, the women we aim to study are hard to reach and attrition rates in these types of studies are high. They might be hesitant to use SAFE out of fear of their partner. Also, the registration procedure and participating in a scientific study are potential barriers. Another challenge is promoting SAFE to the lay audiences, as we cannot disclose too much about the intervention due to differences in the intervention and control arm.

The study does, however, also have significant strengths compared to standard of care. Women can use SAFE anonymously and for free. Both arms of the intervention provide participants with significant information on IPV, safe relationships and help options. The intervention is based on scientific knowledge about IPV and eHealth, similar interventions in other countries (Eden et al., 2015; Ford-Gilboe et al., 2017; Hegarty et al., 2015; Koziol-McLain et al., 2018), and on experiences and knowledge from female survivors and IPV experts. We do, therefore, provide a state-of-the-art intervention adapted to local specificities.

If SAFE proves to be a successful intervention, it could easily be implemented in the (mental) healthcare system as a national go-to spot for women exposed to IPV. Especially for those experiencing barriers in disclosing IPV and seeking help. Furthermore, it could be easily adapted and transferred to other European realities, as the help system is organized in a comparable manner across different countries. In conclusion, eHealth has the potential to reach many women who deal with IPV, while being receptive to their needs in particular situations and stages of change and encouraging them to reflect on their situation and seek professional help sooner.

Tables and figures

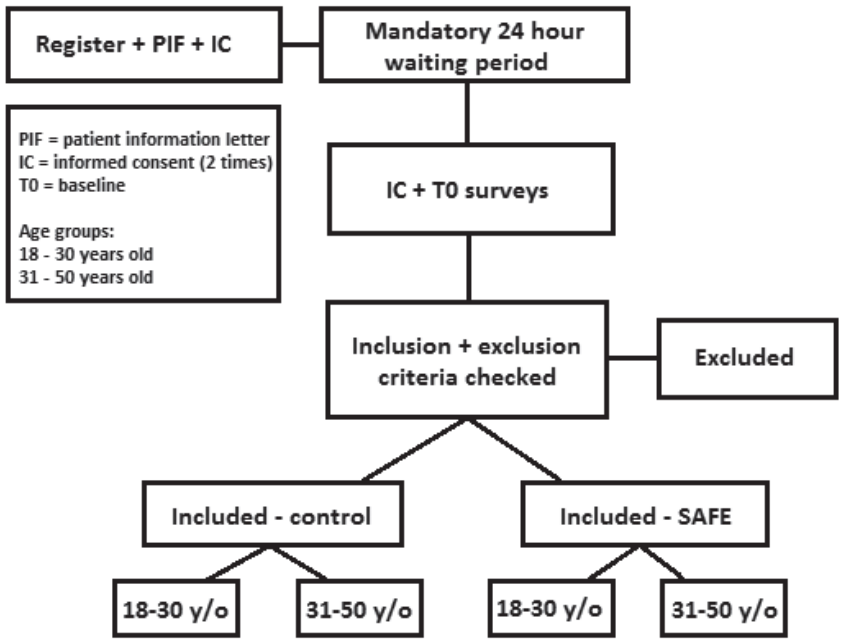


Figure 1. Online inclusion procedure.

Table 1. SAFE modules and functionalities.

My situation (module)	***Help (module)***
Intimate partner violence (IPV)	*Help options*
Relationships (healthy and unhealthy)	*Help database*
Impact on children	*Safety*
My health (module)	**My environment (module)**
Physical health	Social support
Mental health	Contact
Symptoms and tips	Disclosing IPV
Contact	***About SAFE***
Contact options with fellow survivors and victims	*Patient information letter*
Contact with community managers	*Safety measures*
Chat, forum, diary	*Organizations involved*
	Community managers
Additional functionalities (throughout the intervention when applicable)	
Short videos ('vlogs') with survivors and professionals	
Quotes and stories from survivors	
Exercises	
Tips for books, films, activities etc.	

Note: the Minimal Intervention consists of the cursive components; the SAFE intervention consists of all mentioned components (cursive and non-cursive).

Table 2. Secondary outcome measures.

Outcome	Measure	Description	Hypothesis
Anxiety and depression	Hospital Anxiety and Depression Scale (HADS)	To determine levels of experienced anxiety and depression symptoms (Bjelland et al., 2002; Spinhoven et al., 1997; Zigmond & Snaith, 1983).	Participants in the intervention group will show a lower mean depression score and a lower mean anxiety score than the comparison group.
Awareness	Contemplation Ladder (modified version; original by Biener & Abrams, 1991)	To measure awareness of abuse from 0-10 based on how ready the woman is to make changes to her situation.	Participants in the intervention group will show a higher mean score on awareness than the comparison group.
Perceived social support	Medical Outcomes Survey – Social Support (MOS-SS5)	The questions concern the access to support of women to persons in their life (McCarrier et al., 2011; Sherbourne & Stewart, 1991).	Participants in the intervention group will show a higher mean score on perceived social support than the comparison group.
Fear of partner	Visual Analogue Scale (VAS)	To measure the current level of fear of their (ex-) partner from 0-10.	Participants in the intervention group will show a lower mean fearfulness score than the comparison group.
Perceived website support	Visual Analogue Scale (VAS)	To measure how supported the participant feels by the website from 0-10.	Participants in the intervention group will show a higher mean score on perceived website support than the comparison group.

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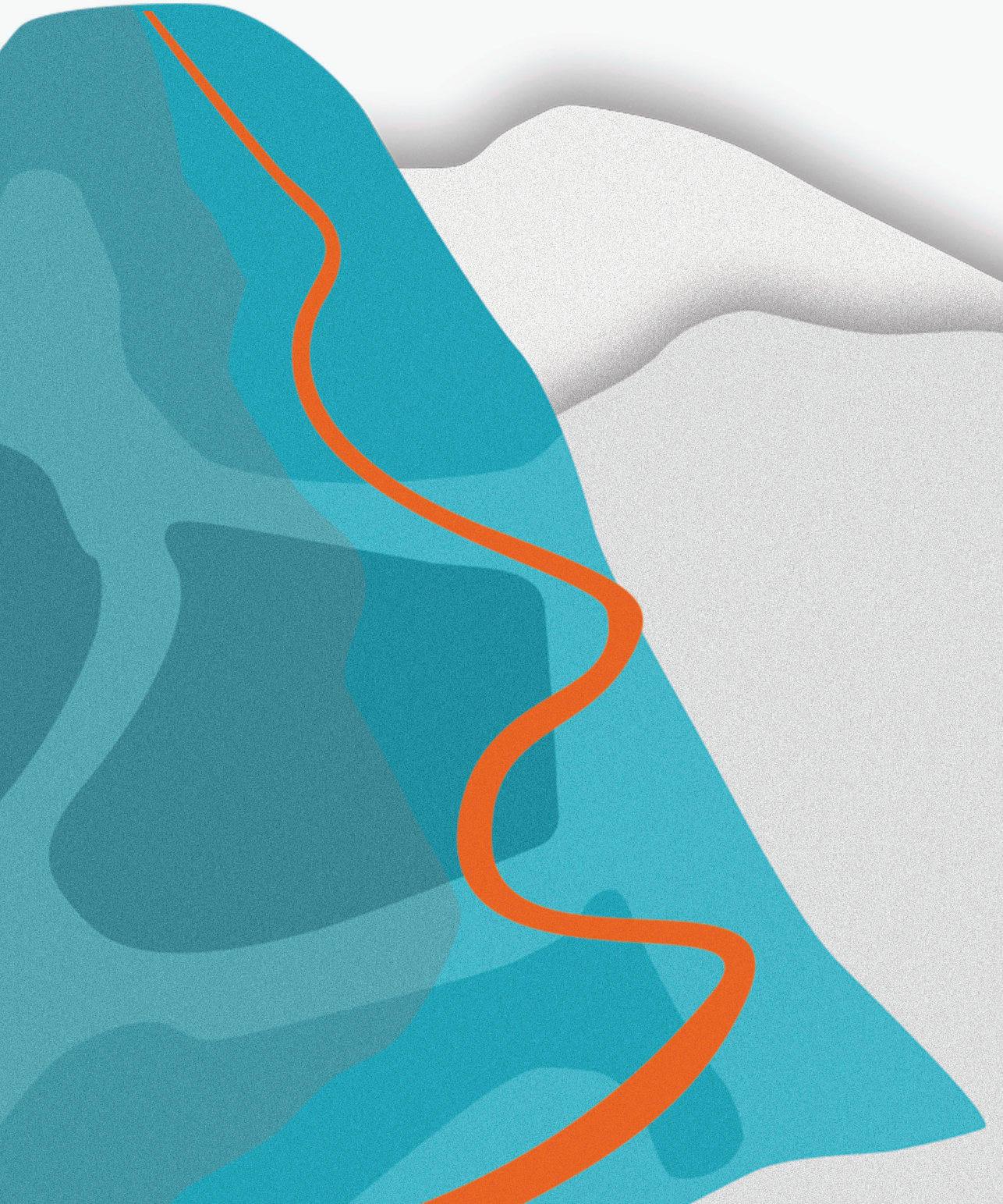

CHAPTER 4

Effectiveness of the SAFE eHealth intervention for women experiencing intimate partner violence and abuse: Randomized controlled trial, quantitative process evaluation, and open feasibility study.

This chapter is based on the following article: van Gelder, N. E., Ligthart, S. A., van Rosmalen-Nooijens, K. A. W. L., Prins, J. B., & Oertelt-Prigione, S. (2023). Effectiveness of the SAFE eHealth intervention for women experiencing intimate partner violence and abuse: Randomized controlled trial, quantitative process evaluation, and open feasibility study. Journal of Medical Internet Research, 25, e42641. doi:10.2196/42641

Abstract

Background: Intimate partner violence and abuse (IPVA) is a pervasive societal issue that impacts many women globally. Web-based help options are becoming increasingly available and have the ability to eliminate certain barriers in help seeking for IPVA, especially in improving accessibility.

Objective: This study focused on the quantitative evaluation of the SAFE eHealth intervention for women IPVA survivors.

Methods: A total of 198 women who experienced IPVA participated in a randomized controlled trial and quantitative process evaluation. Participants were largely recruited on the internet and signed up through self-referral. They were allocated (blinded for the participants) to (1) the intervention group (N=99) with access to a complete version of a help website containing 4 modules on IPVA, support options, mental health, and social support, and with interactive components such as a chat, or (2) the limited-intervention control group (N=99). Data were gathered about self-efficacy, depression, anxiety, and multiple feasibility aspects. The primary outcome was self-efficacy at 6 months. The process evaluation focused on themes, such as ease of use and feeling helped. In an open feasibility study (OFS; N=170), we assessed demand, implementation, and practicality. All data for this study were collected through web-based self-report questionnaires and automatically registered web-based data such as page visits and amount of logins.

Results: We found no significant difference over time between groups for self-efficacy, depression, anxiety, fear of partner, awareness, and perceived support. However, both study arms showed significantly decreased scores for anxiety and fear of partner. Most participants in both groups were satisfied, but the intervention group showed significantly higher scores for suitability and feeling helped. However, we encountered high attrition for the follow-up surveys. Furthermore, the intervention was positively evaluated on multiple feasibility aspects. The average amount of logins did not significantly differ between the study arms, but participants in the intervention arm did spend significantly more time on the website. An increase in registrations during the OFS (N=170) was identified: the mean amount of registrations per month was 13.2 during the randomized controlled trial and 56.7 during the OFS.

Conclusions: Our findings did not show a significant difference in outcomes between the extensive SAFE intervention and the limited-intervention control group. It is, however, difficult to quantify the real contribution of the interactive components, as the control group also had access to a limited version of the intervention for ethical reasons. Both groups were satisfied with the intervention they received, with the intervention study arm significantly more so than the control study arm. Integrated and multilayered approaches are needed to aptly quantify the impact of web-based IPVA interventions for survivors.

Trial Registration: Netherlands Trial Register NL7108 NTR7313; https://trialsearch.who.int/Trial2.aspx?TrialID=NTR7313.

Introduction

Intimate partner violence and abuse (IPVA) is a type of domestic violence and abuse (DVA) that affects many women. It consists of various types of violence between current or former partners: physical, sexual, psychological, and economic (WHO, 2013). Globally, around 30% of women experience physical or sexual abuse or both from their current partner or former partner during their lifetime (Devries et al., 2013; FRA, 2014; WHO, 2021a). IPVA can be fatal and has many negative consequences for victims or survivors (from here on referred to as survivors), for example, mental health issues (e.g. anxiety, depression, posttraumatic stress disorder), physical health issues (e.g. injuries), social isolation, and financial or economic dependence (Ellsberg et al., 2008; Sauber & O'Brien, 2020). Despite their frequent occurrences, IPVA and DVA are still taboo subjects, and survivors often struggle to disclose the violence or seek help due to shame, fear, stigma, feeling guilty, not recognizing IPVA, financial dependency, residency permit dependency, and children being involved (Feder, Hutson, Ramsay, & Taket, 2006; Rose et al., 2011; O'Doherty, Taft, McNair, & Hegarty, 2016). Furthermore, lockdowns and mitigation measures during the COVID-19 pandemic (WHO, 2021b) that occurred simultaneously with a part of this study not only exacerbated IPVA but also heightened the barriers for disclosing and seeking help (Muldoon et al., 2021; Peterman et al., 2020; Piquero et al., 2021; Williams et al., 2021).

While Van Rosmalen-Nooijens and colleagues (2017) showed that web-based support is helpful in the context of family violence (van Rosmalen-Nooijens, Lo Fo Wong, Prins, & Lagro-Janssen, 2017), the pandemic increased the urgency of web-based help being available for people facing DVA or IPVA. Thus, multiple countries, such as Australia, Italy, and Portugal, started to provide or enforce existing web-based support options (Barbara et al., 2020; Caridade et al., 2021; Emezue, 2020; Pfitzner, Fitz-Gibbon, & True, 2020). In the Netherlands, various DVA organizations implemented and extended web-based support options as well, for example, web-based chats (van Gelder et al., 2021). Indeed, web-based tools and interventions can increase accessibility of support and help options. eHealth is still relatively new in the field of IPVA research, but several studies showed the feasibility and effectiveness that web-based interventions have in supporting IPVA survivors. For example, in improving mental health, decreasing exposure to IPVA, and increasing awareness, safety behaviors, and feeling supported (Constantino et al., 2015; Eden et al., 2015; Ford-Gilboe et al., 2020; Glass et al., 2021; Hegarty et al., 2019; Hegarty, Tarzia, Cornelio, & Forsdike, 2018; Koziol-McLain et al., 2018). However, in a systematic review and meta-analysis, Linde and colleagues (Linde et al., 2020) found no effects on IPVA exposure, depression, or posttraumatic stress

disorder when comparing eHealth interventions (including telephone and email) to standard (offline) care, control websites, or other control means, such as emails and web-based TV shows. The assessed studies did differ in type of intervention, control, and outcome measures, challenging the possibility to provide an overview about effectiveness of eHealth versus offline care (Linde et al., 2020). Furthermore, eHealth interventions generally do not aim to replace offline support, and control websites can have an educational or supportive effect in itself.

All the aforementioned outcomes for eHealth interventions in the IPVA context originate from Australia, Canada, the United States, and New Zealand. In Europe, our team in the Netherlands developed the first eHealth intervention for female IPVA survivors that was scientifically evaluated through a randomized controlled trial (RCT), a process evaluation (PE), and an open feasibility study (OFS). The Dutch web-based intervention SAFE (www.safewomen.nl) was inspired by the Australian I-DECIDE intervention (Hegarty et al., 2015) and the Dutch Feel the Vibe intervention (van Rosmalen-Nooijens et al., 2013) and based on scientific knowledge and the insights from Dutch IPVA survivors and professionals (van Gelder et al., 2022). The development process of the intervention and the study protocol for the RCT, PE, and OFS are available elsewhere (van Gelder et al., 2020; van Gelder et al., 2022). This study focuses on 2 main outcomes derived from the RCT, quantitative PE, and OFS: effectiveness and feasibility. The primary research question is: "Is SAFE more effective in increasing self-efficacy in women exposed to IPVA than a minimal intervention?" Secondary research questions are: "Is SAFE an effective intervention to increase awareness and perceived support and to lower symptoms of mental health problems in women exposed to IPVA?" and "Is SAFE a feasible tool in the real-world setting for providing information and support to women exposed to IPVA?"

Methods

Ethics Approval

All research components, including 2 amendments, covering a clarification of the inclusion criteria for fear of partner scores and the introduction of the OFS, were approved by the Medical Ethics Committee from Arnhem and Nijmegen (NL68268.091.18; dossier 2018-5009) and the RCT was registered at the Netherlands Trial Register NL7108 (NTR7313). The SAFE study was conducted in compliance with the Declaration of Helsinki, and this study is described based on the CONSORT-EHEALTH (Consolidated Standards of Reporting Trials of Electronic and Mobile HEalth Applications and onLine TeleHealth) guidelines and the CHERRIES (Checklist for

Reporting Results of Internet E-surveys) (Eysenbach, 2004; Eysenbach, 2011). Since the study protocol has been elaborately described and published (van Gelder et al., 2020), we here only briefly describe the methods, including the changes to protocol. This study consists of an RCT, PE, and OFS.

Framework of RCT

The RCT is a parallel-group design with 2 arms and stratified (block size of 4) automated randomization in 2 age groups (18-30 years and 31-50 years). The eHealth developer and a statistician generated the random allocation sequence. The randomization was single-blinded for the participants. The researchers could track which participant was part of the control or intervention group but could not influence the randomization process. The RCT intervention group received the complete intervention, that is, access to a website with support for IPVA survivors with interactive components. The control group received minimal intervention with only the most essential static information (Textbox 1). The primary outcome to determine the intervention's effectiveness is self-efficacy at 6 months (M6). The secondary outcomes are anxiety, depression, awareness, fear of partner, and perceived support. The outcomes were assessed with web-based self-report questionnaires at the registration process (M0), at 3 (M3), 6 (M6), and 12 months (M12; Multimedia Appendix 1; source: van Gelder et al., 2020).

The participants for the RCT were largely recruited on the internet between April 1, 2019, and October 1, 2020, and signed up through self-referral or a DVA, social, or mental health care professional. Women in the RCT were between 18 and 50 years of age who had a sufficient comprehension of Dutch, experienced IPVA no longer than 1 year ago or were still experiencing significant fear of their partner. All participants digitally received an information letter and signed an informed consent form by checking a box. Through the information letter and a statement on the intervention website, participants were made aware that this study was conducted by researchers from the Radboudumc. Subsequently, we enforced a mandatory 24-hour waiting period to ensure participants had sufficient time to contemplate their decision to participate. Participants then provided digital consent again, filled out the M0 (baseline) questionnaires, and were randomized in the control or intervention arm. The intervention was frozen during the RCT, meaning no major changes to the intervention were made during the trial.

The sample size was calculated based on the primary outcome measure, self-efficacy at 6 months, as described in the study protocol (van Gelder et al., 2020). The data were analyzed with descriptive statistics (based on intention to treat), analyses of

covariance (ANCOVAs), and generalized estimated equations for the primary and secondary outcomes, controlling for baseline scores, and using SPSS (version 25; IBM Corp, 2017). For self-efficacy, a complete case analysis was conducted as well for M0, M3, and M6. Due to a high dropout rate on follow-up questionnaires (198 at M0; 42 at M6), we performed an extensive check for selective attrition bias at the M6 General Self-Efficacy Scale (GSE) survey, using various variables on demographics, study arm, IPVA experiences, and the primary and secondary measures at baseline (Multimedia Appendix 2).

Framework of PE and OFS

PE consists of surveys at several time points. We also conducted a qualitative PE (interviews), described in a separate article (van Gelder et al., unpublished results). The OFS tests the intervention in a real-world setting while gathering feasibility data that are combined with additional data from the RCT on specific feasibility measures: acceptability, demand, implementation, practicality, adaptation, integration, expansion, and limited-efficacy testing (Bowen et al., 2009). Data from the PE and OFS, including the Web Evaluation Questionnaire, were used to assess the feasibility measures (Bowen et al., 2009) and themes, such as ease of use, understandability, and feeling helped by the intervention (Elling & Lentz, 2007). Furthermore, during the PE and OFS, log data on the amount of visitors, registrations, logins, time spent on the website, and viewed pages were gathered automatically through the website, the eHealth developer, and analytics tool Matomo (Matomo, 2023). The OFS took place between May 1, 2021, and August 1, 2021, and the data were gathered anonymously and in line with the General Data Protection Regulation (GDPR; European Union, 2021).

For the OFS, the complete version of the intervention (Textbox 1) was available without an extensive mandatory registration procedure and baseline questionnaire. Women accessed the intervention with a nickname and self-selected password. For access to the forum, women had to answer a few questions about, for example, their gender identity and age (Multimedia Appendix 3) and provide an email address in order to ensure safety for forum users. The chat feature was not offered as initially planned, given the rapid growth in users, the inability to monitor the chat 24/7 by the community managers, and the relatively low active use. Hence, we decided to remove this option, which is a change to protocol, as a preventative measure to guarantee user safety at all times.

The Web Evaluation Questionnaire data were analyzed by comparing the mean differences between the 2 RCT study arms. The log data were analyzed with descriptive statistics, and the PE data were compared to the OFS data.

Results

RCT participants' registrations and demographics

During the RCT inclusion period, 239 out of 502 women completed the registration they started, and 198 women were included in the RCT. Overall, 4 participants actively dropped out during their follow-up trajectory (1 from control; 3 from intervention); however, attrition on follow-up questionnaires was much higher (Figure 1).

The study sample has a mean age of 35 years. With regard to gender, all participants identify as women (answer options: "woman," "man," "other, namely:", "I'd rather not say"). Most participants identify as heterosexual (179/198, 90.4%). The majority identifies (partially) as Dutch (177/198, 89.4%). More than half of the sample has a high education (100/198, 50.5%) and a paid job (115/198, 58.1%). Overall, 64.6% (128/198) of them have children and 42.9% (85/198) of them live together with their former partners. Almost all participants experienced psychological IPVA (191/198, 96.5%), and the majority experienced physical IPVA (150/198, 75.8%). Less than half reported sexual (67/198, 33.8%) or economic (86/198, 43.4%) IPVA (Table 1). A small majority (104/198, 52.5%) experienced the last IPVA incident in the week of registering for the SAFE intervention (M0), 22.2% (44/198) experienced the last incident in the month before registering, and 25.3% (50/198) experienced the last incident within the last year or longer ago.

Effectiveness: effect on self-efficacy

We could not detect any statistically significant differences in the primary outcome of self-efficacy between the study arms in the ANCOVA-M6 (p=.85), generalized estimated equations (p=.98; Table 2), and complete case analysis (p=.86). We noticed scores just below the general population's average (mean 29) at M0 and just above average at M6, showing an increase in self-efficacy within 6 months for both groups. The group that scored lower on self-efficacy at M0 was significantly less likely to fill out the M6 survey (p=.03; mean difference >2 points, indicating real-world relevance). Women who experienced sexual IPVA completed the M6 questionnaire more often (20/42, 47.6% in follow-up group) than women who did not (47/156, 30.1% in attrition group; Multimedia Appendix 2).

There were no significant differences between the study arms on the secondary outcomes: depression, anxiety, fear of partner, awareness, social support, and perceived support by the website (Table 2). For most variables, participants in both groups showed improvement when comparing M0 to M6, with statistically significant

decreasing scores for anxiety and fear of partner (p=.006 and p=.02, respectively). For depression, we found a significant difference between study arms (p=.03), with the intervention group scoring lower than the control group, but no significant changes between M0 and M6 in depression symptoms.

Feasibility: level of need and use

This intervention scored high on demand, implementation, and practicality. We saw an increase in registrations during the OFS (N=170; RCT and OFS means per month are 13.2 and 56.7, respectively; Figure 2). The RCT user data showed that 22 participants in the intervention group and 26 participants in the control group never logged in (Multimedia Appendix 4). The intervention group spent significantly more time on the intervention than the control group (p<.001), but we found no significant difference between the study arms for the average amount of logins (p=.08). Women in the RCT intervention group and OFS mostly visited the interactive contact options, such as the forum. The RCT control group mostly used the pages on help options (Multimedia Appendix 4). Furthermore, data on preintervention home page visits (January 2020-July 2021) show a constant flow of visitors to the SAFE website, with 2 distinctive peaks in April 2020 and July 2020. Data from SAFE's social media accounts and mailbox show a large outreach among our target group (Multimedia Appendix 5). Furthermore, the costs of this intervention have been higher in the development phase than in the implementation phase, and it costs relatively little to maintain (Multimedia Appendix 6). Expertise on both the technical and content sides is necessary, and thus the development, implementation, and maintenance of such an intervention need the input of multiple parties.

Effectiveness and feasibility: level of support and appreciation

We found a significant between-group difference in feeling helped by the intervention (Table 3). The intervention group scored higher than the control group (p=.001) and the study arm explains this variance by 22.1% (R^2=0.221; p=.001). The grade given to the intervention is significantly associated with the intervention arm as well. The intervention group (mean 7.82) was significantly more satisfied than the control group (mean 6.07; p<.001), with the study arm explaining 23.4% of the variance in grades between the groups (R^2=0.234; p<.001). The intervention group agreed more often than the control group (p=.03) with the statement "SAFE suits what I want to know and what I need." Furthermore, for both groups, the majority agrees that the language used in the intervention is comprehensible, the intervention is easy and safe to use, it suits their needs, and the speed of the website is adequate (Table 3).

Discussion

Principal findings

This study quantitatively evaluated the effectiveness and feasibility of the first Dutch self-support eHealth intervention (SAFE) for women exposed to IPVA. This study did not provide statistically significant evidence that the extensive SAFE intervention was more effective than the minimal intervention in increasing self-efficacy (primary outcome), awareness, and perceived support, and in decreasing mental health problems (secondary outcomes). It did provide evidence for SAFE's adequate feasibility on multiple levels, such as acceptability and demand, and for participants' satisfaction and appreciation.

Comparison to previous work

In line with the findings of Hegarty and colleagues (Hegarty et al., 2019), our study could not demonstrate a significant effect on self-efficacy of the intervention, while Ford-Gilboe and colleagues (2020) did find a significant improvement over time for both study arms (Ford-Gilboe et al., 2020). However, in our study and the study by Hegarty and colleagues (2019), the control groups were also provided access to a limited version of the intervention, since withholding any support from women reaching out for help would have been unethical. As a consequence, the real contribution of both the overall effect of an eHealth intervention and the interactive features in particular is difficult to assess (Ford-Gilboe et al., 2020). Also, since the mean self-efficacy score for both study arms was just below the general population's average at M0, a significant change after 6 months appears unrealistic. The participants might have been facing the aftermath of ending an abusive relationship (Lerner & Kennedy, 2000; Reisenhofer et al., 2019), which might have been associated with negative mental health effects for an average of at least 20 months after leaving (Ford-Gilboe et al., 2009). Furthermore, the self-help nature of eHealth interventions may be more successful among people with a higher level of self-efficacy (MacLeod, Martinez, & Williams, 2009; Levin, Krafft, & Levin, 2018), which might not always apply to our target group.

Both groups showed significant improvements for anxiety and fear of partner but no significant effect for depression. Since anxiety was not included as an outcome in other studies, a comparison was not possible. Other studies have not found a significant impact on fear of partner (Hegarty et al., 2019), which might be due to structural differences in national IPVA responses. For example, Australia focused on electronically monitoring perpetrators to increase protection of survivors (Nancarrow & Modini, 2018; Queensland Police Service, 2021), while the Netherlands focused on the AWARE (Abused Women's Active Response Emergency) system for survivors

(Stichting Arosa, 2022; Verbeek, Galesloot, & Kriek, 2021). While other studies found significant improvements in depression over time for both study arms (Ford-Gilboe et al., 2020; Glass et al., 2017; Glass et al., 2021; Hegarty et al., 2019) or for a subgroup at 3 months (Koziol-McLain et al., 2018), we did not find a significant effect. This might be related to external circumstances: part of this study took place during the COVID-19 pandemic, during which a global increase in depression was observed, especially in women (Hek, Jansen, Bolt, & van Dijk, 2022; Pan et al., 2021; Salari et al., 2020; Vloo et al., 2021). Also, participants who experienced sexual IPVA were more likely to fill out the M6 questionnaire, and this type of violence can significantly exacerbate depression symptoms, even when experiencing other IPVA forms as well (Bonomi, Anderson, Rivara, & Thompson, 2007; Pico-Alfonso et al., 2006). Last, the variance in outcomes for mental health problems could be explained by differences in measures, study design, and intervention design.

With regard to feasibility, the SAFE intervention scores high on acceptability, demand, implementation, practicality, adaptation, integration, and expansion. It also shows promise for certain aspects of limited efficacy testing as the intervention shows signs of being successful among the target group (Bowen et al., 2009) with our large outreach in Dutch society, the amount of women that registered for SAFE, and the participants' level of satisfaction. Our findings are similar to those from other studies, but we did find significant differences, for example, in feeling helped, in favor of the intervention study arm (Ford-Gilboe et al., 2020; Hegarty et al., 2019; Koziol-McLain et al., 2018). This finding is expected, as the intervention group received a more elaborate and interactive intervention and spent significantly more time on the website than the control group. With regard to integration (Bowen et al., 2009), we noticed a possible influence of the COVID-19 pandemic and increased attention for DVA and help options during the pandemic's first wave with an increase in registrations, especially in the first months with restrictions during a national lockdown. Also, we noticed an increase in registrations during the OFS, which was expected due to the change from an extensive registration process during the RCT to an easy, direct access registration during the OFS. Furthermore, Dutch professionals expressed their interest in web-based support and blended care for IPVA survivors (van Gelder et al., 2021). Financially, the intervention's development requires the expertise of multiple parties, and upfront development costs are relatively high, while digital maintenance—without personnel costs for monitoring of the interactive features—is limited (Multimedia Appendix 6). Taken together, the intervention's self-help nature, its extensive reach within society (Multimedia Appendix 4), and no evidence of harmful effects make this intervention very sustainable and easy to integrate in existing care and support structures (Bowen et al., 2009; Ford-Gilboe et al., 2020).

The SAFE eHealth intervention appears as a feasible tool to provide information and support to women who experience IPVA. Our corresponding qualitative evaluation (van Gelder et al., unpublished results) shows that while the intervention did not always explicitly improve self-efficacy or mental health problems or show significant statistical differences, women did find it helpful in terms of awareness, support, and acknowledgment, and they were satisfied with the provided information and help options.

Strengths and limitations

First, a strength of this study is the extensive study design, using 3 evaluation methods to assess the intervention's effectiveness on multiple levels. Second, the IPVA experiences within the study sample represent all 4 types of IPVA (psychological, physical, economic, and sexual) that survivors can endure. Third, for diversity in cultural background and sexual orientation, this study is quite representative of the general Dutch female population. In 2020, overall, 93.2% of the general Dutch female population has the Dutch nationality (Centraal Bureau voor de Statistiek, 2022). In this study, the majority of the women are born in the Netherlands (170/198, 85.9%) and identify (partially) as Dutch (177/198, 89.4%). For sexual orientation, in the general Dutch female population, between 1.4% and 2.4% of women identify as lesbian and 3.3% as bisexual, compared to 2.5% (5/198) of study participants identifying as lesbian and 6.1% (12/198) as bisexual (Movisie, 2021).

There are also several limitations to this study. First, we noticed the extensive registration procedure for the RCT study was a barrier for women to sign up for the intervention. Also, unlike other studies (Ford-Gilboe et al., 2020; Glass et al., 2021; Hegarty et al., 2019), we encountered a high attrition rate with regard to responses on follow-up questionnaires, leading to a small sample size and possibly a power problem (e.g. with social support Medical Outcomes Survey Social Support-5 [MOS-SS5]) at M6, see Table 2. With regard to attrition, we found signs of selective attrition bias for self-efficacy and sexual IPVA that may have influenced the outcomes. Furthermore, some participants might not have been able to continue their active participation due to their circumstances, priorities, mental health issues, fear of their partner finding out (Matthews et al., 2017; Sikweyiya & Jewkes, 2012; Sikweyiya & Jewkes, 2013), or problems with executive functioning, such as processing information (Daugherty, Pérez-García, Hidalgo-Ruzzante, & Bueso-Izquierdo, 2021; Lee & DePrince, 2017; Twamley et al., 2009). Also, part of the group who never logged in or who logged in only once may have experienced an effect from filling out the baseline survey and receiving feedback (Ford-Gilboe et al., 2020; Hegarty et al., 2019; McCambridge, Witton, & Elbourne, 2014; Reisenhofer et al., 2019) or finding the desired information, which may have been enough to validate their experience and encourage them to seek help.

Second, the reliance on self-reports for all outcomes and thus the risk of self-reporting bias are limitations. Furthermore, as the study partially took place during the COVID-19 pandemic, this external circumstance could have decreased or delayed progress or improvement in some outcomes, for example, with regard to increasing mental health problems (Pan et al., 2021; Salari et al., 2020; Vloo et al., 2021) and a rise in IPVA prevalence and severity, as well as diminished access to support services (Boxall, Morgan, & Brown, 2020; Brink, Cullen, Beek, & Peters, 2021; Gosangi et al., 2021; Lausi et al., 2021; Lyons & Brewer, 2022; van Gelder, et al., 2020; van Gelder et al., 2021; Williams et al., 2021).

Third, for the measure on awareness (contemplation ladder), a lower score at M6 compared to M0 could mean that awareness became lower over time but also that they did not experience IPVA anymore or had left the abusive relationship, as scoring 0 was answering: "I don't think of leaving my partner and/or seeking help. The relationship is not violent (anymore)." Thus, this impedes the interpretation of this outcome.

Last, in terms of diversity and equity, this study has some limitations as well (El Morr & Layal, 2020; Williams et al., 2021) [14,73]. The intervention was only available in Dutch, which excluded women who did not sufficiently comprehend Dutch. Also, while many people in the Netherlands have access to the internet (97%) and are digitally literate (50% have "above basic overall digital skills") (Centraal Bureau voor de Statistiek, 2020a; Centraal Bureau voor de Statistiek, 2020b), women who did not have access to the internet or do not know how to use it were excluded. With regard to educational diversity, a noticeably higher percentage of the sample (50.5%) has a high education level compared to the general female population in the Netherlands (34%) (Centraal Bureau voor de Statistiek, 2019).

Implications

With regard to improving self-efficacy and mental health in women IPVA survivors, we could conclude that while some studies found significant improvements for both groups (Ford-Gilboe et al., 2020; Glass et al., 2017; Glass et al., 2021), existing eHealth interventions are generally not effective when comparing interventions to control interventions (Linde et al., 2020). Overall, we might have to reconsider our expectations for web-based interventions since the ones specifically designed to treat symptoms of anxiety and depression only yield small effects for their target populations. Nevertheless, they can be helpful and meaningful for health outcomes in the general population (Deady et al., 2017; Massoudi et al., 2019). Most importantly, IPVA survivors may not seek web-based support for this purpose. Thus, we might

have to rethink how we design and evaluate these interventions. The RCT might not be the most suitable evaluation method in this context (Goodman, Epstein, & Sullivan, 2018; Pham, Wiljer, & Cafazzo, 2016). Instead, actively including the target group in designing the intervention and employing multiple methods of evaluation, quantitative and qualitative, appears crucial toward obtaining real-world, in-depth knowledge about the effectiveness of an eHealth intervention for IPVA survivors (van Gelder et al., 2022; van Gelder et al., unpublished results). Last, in both design and research, interventions should pay attention to diversity on multiple levels, for example, with regard to cultural sensitivity and availability in multiple languages (Elbelassy, van Gelder, Ligthart, & Oertelt-Prigione, 2022; Sabri et al., 2019; Sabri et al., 2021; van Gelder et al., unpublished results). Currently, the SAFE intervention is available in Dutch, and the essential components have been translated into English and Arabic.

Overall, the feasibility of this intervention is high, with survivors expressing a demand for web-based options and professionals expressing interest in implementing this type of support. Hence, in addition to the direct use by IPVA survivors, professionals have the option to refer clients or patients to the platform as an additional means of support, as a bridging tool when waitlisted for an in-person intervention, or as part of a blended care approach (van Gelder et al., 2021; van Gelder et al., 2022).

Tables and figures

Textbox 1. SAFE modules and functionalities during randomized controlled trial (boldfaced: available to the control and intervention group; not boldfaced: only available to the intervention group) and open feasibility study (in italics: not available or applicable during OFS).

Module: My situation	**Module: Help**
- Information on IPVA.	**- Information on various help options.**
- Information on (un)healthy relationships.	**- Information on safety (e.g. in preparing to leave an abusive partner).**
- Information on the impact of IPVA on children.	**- Help database with help options, including filters for type of help and region.**
Module: My health	**Module: My environment**
- Information on physical health (issues).	- Information on social support.
- Information on mental health (issues).	- Information on disclosing IPVA.
- Information on coping strategies and stress reduction.	- Information on contact options.
Contact	**About SAFE**
- Links to contact options with fellow survivors.	**- Information on the SAFE research project (incl. *patient information letter* and stakeholders who provided input).**
- Option to contact the community managers.	**- Information on safety measures.**
- *Chat*, forum, *diary*.	**- Information on the community managers.**
Additional functionalities (throughout the intervention when applicable)	
- Exercises for creating awareness and to stimulate reflecting on their situation and help seeking process.	
- Short videos by women survivors of IPVA and by professionals.	
- Stories and quotes from women survivors of IPVA.	
- Tips for books, films, activities etc.	

Table 1. Demographics and scores of the randomized controlled trial group at baseline (M0; N=198).

Group[a]	Total (N=198)	Intervention group (N=99)	Control group (N=99)
Age[b] (years), n (%)			
18-30	52 (26.3)	26 (26.3)	26 (26.3)
31-50	146 (73.7)	73 (73.7)	73 (73.7)
Sexual orientation, n (%)			
Heterosexual	179 (90.4)	91 (91.9)	88 (88.9)
Nonheterosexual[c]	19 (9.6)	8 (8.1)	11 (11.1)
Country of birth, n (%)			
The Netherlands	170 (85.9)	83 (83.8)	87 (87.9)
Other than the Netherlands[d]	28 (14.1)	16 (16.2)	12 (12.1)
Cultural identification, n (%)			
(partially) Dutch	177 (89.4)	90 (90.9)	87 (87.9)
Not Dutch[e]	21 (10.6)	9 (9.1)	12 (12.1)
Religious identification, n (%)			
None or atheism	125 (63.1)	66 (66.7)	59 (59.6)
Religious[f]	73 (36.9)	33 (33.3)	40 (40.4)
Educational level[g], n (%)			
Lower	98 (49.5)	53 (53.5)	45 (45.5)
Higher	100 (50.5)	46 (46.5)	54 (54.5)
Children, n (%)			
Yes	128 (64.6)	68 (68.7)	60 (60.6)
No	70 (35.4)	31 (31.3)	39 (39.4)
IPVA[h] type, n (%)			
Physical	150 (75.8)	80 (80.8)	70 (70.7)
Psychological	191 (96.5)	95 (96)	96 (97)
Sexual	67 (33.8)	34 (34.3)	33 (33.3)
Economic	86 (43.4)	47 (47.5)	39 (39.4)
Self-efficacy (GSE[i]; range 10-40), mean	28.15	28.69	27.62
Anxiety (HADS[j]; range 0-21), mean	13.06	12.80	13.31
Depression (HADS; range 0-21), mean	9.31	8.56	10.07
Awareness (modified Contemplation Ladder; range 0-10), mean	6.59	6.65	6.54
Social support (MOS-SS5[k]; range 5-25), mean	15.85	15.82	15.88
Fear of Partner (VAS[l]; range 0-10), mean	5.82	5.97	5.68

Table 1. Continued

[a]No significant differences between groups were found.
[b]The mean age of the whole study cohort was 35.3 years; intervention group, 35.5 years; control group, 35.1 years.
[c]This includes "rather not say."
[d]Most named countries: Belgium, Colombia, Germany, Poland, South Africa, and Suriname.
[e]Participants could check multiple boxes if they identified with multiple cultures. Most named cultural identities: Belgian, Indonesian, and Surinamese.
[f]Most named religions: Christianity, Islam, and Hinduism.
[g]Lower education: primary school, secondary school, and vocational education. Higher education: higher vocational education, university, and postdoctoral.
[h]IPVA: intimate partner violence and abuse.
[i]GSE: General Self-Efficacy Scale.
[j]HADS: Hospital Anxiety and Depression Scale.
[k]MOS-SS5: Medical Outcomes Survey Social Support-5.
[l]VAS: Visual Analogue Scale.

Table 2. Analysis of covariance (ANCOVA) and generalized estimated equations (GEE) for self-efficacy and the secondary outcomes.

Outcome measure	Range	GEE (p value)
Self-efficacy (GSE[a])[b]	10-40	.98
Anxiety (HADS[c])[d]	0-21	.86
Depression (HADS)[e]	0-21	.19
Awareness (modified Contemplation Ladder)	0-10	.97
Social support (MOS-SS5)	5-25	.13
Fear of Partner (VAS[f])[d]	0-10	.46
Support by Website (VAS)[g]	0-10	.88

[a]GSE: General Self-Efficacy Scale.

[b]No significant differences for the primary and secondary measures were found for M3 and M12. General population's average on General Self-Efficacy Scale is 29, a higher score means a higher level of self-efficacy. No significant differences were found for self-efficacy in the complete case analysis either.

[c]HADS: Hospital Anxiety and Depression Scale.

	ANCOVA-M0			ANCOVA-M6		p value
Sample, N	Control, mean	Intervention, mean	Sample, N	Control, mean	Intervention, mean	
198	27.62	28.69	42	29.64	29.45	.85
198	13.31	12.80	42	12.14	11.55	.60
198	10.07	8.56	42	10.68	8.20	.29
198	6.54	6.65	41	5.59	6.37	.87
198	15.88	15.82	38	14.89	17.58	.26
198	5.68	5.97	42	4.73	5.30	.71
N/A	N/A	N/A	42	4.09	5.00	.23

[d]For anxiety and fear of partner, we did find significant improvements over time for both groups, p=.006 and p=.02, respectively.

[e]A significant difference (p=.025) was found only between the study arms, not over time, from M0 on.

[f]VAS: Visual Analogue Scale.

[g]This outcome was only measured in follow-up surveys, not at M0.

Table 3. Web Evaluation Questionnaire outcomes for randomized controlled trial study arms.

	Intervention group, n/N (%)[a]	Control group, n/N (%)[a]
Comprehensible language		
Yes	9/9 (100)	17/18 (94.4)
Information easy to find		
Yes	6/9 (66.7)	8/18 (44.4)
Provides sufficient information		
Yes	6/9 (66.7)	8/18 (44.4)
Easy to use		
Yes	7/9 (77.8)	12/18 (66.7)
Suits to what I want to know and what I need (p=.03)		
Yes	9/9 (100)	10/18 (55.6)
The website is slow		
No	9/9 (100)	14/18 (77.8)
Feels safe to use		
Yes	15/17 (88.2)	24/26 (92.3)
Feeling helped (p<.001)		
No	1/17 (5.9)	11/27 (40.7)
A little	6/17 (35.3)	12/27 (44.4)
Perhaps yes	6/17 (35.3)	2/27 (7.4)
Yes	4/17 (23.5)	2/27 (7.4)
A lot	0/17 (0)	0/27 (0)
Grade for intervention[b] (p<.001)		
Not satisfied (1-5)	1/17 (5.9)	8/27 (29.6)
Satisfied (6-7)	3/17 (17.6)	11/27 (40.7)
Very satisfied (8-10)	13/17 (76.5)	8/27 (29.6)

[a]The N differs for the various outcomes as not all participants consistently filled out all survey questions. The percentages are rounded, and thus the total may be just under or above 100%.
[b]Mean grade for intervention was 7.82 for the intervention group and 6.07 for the control group.

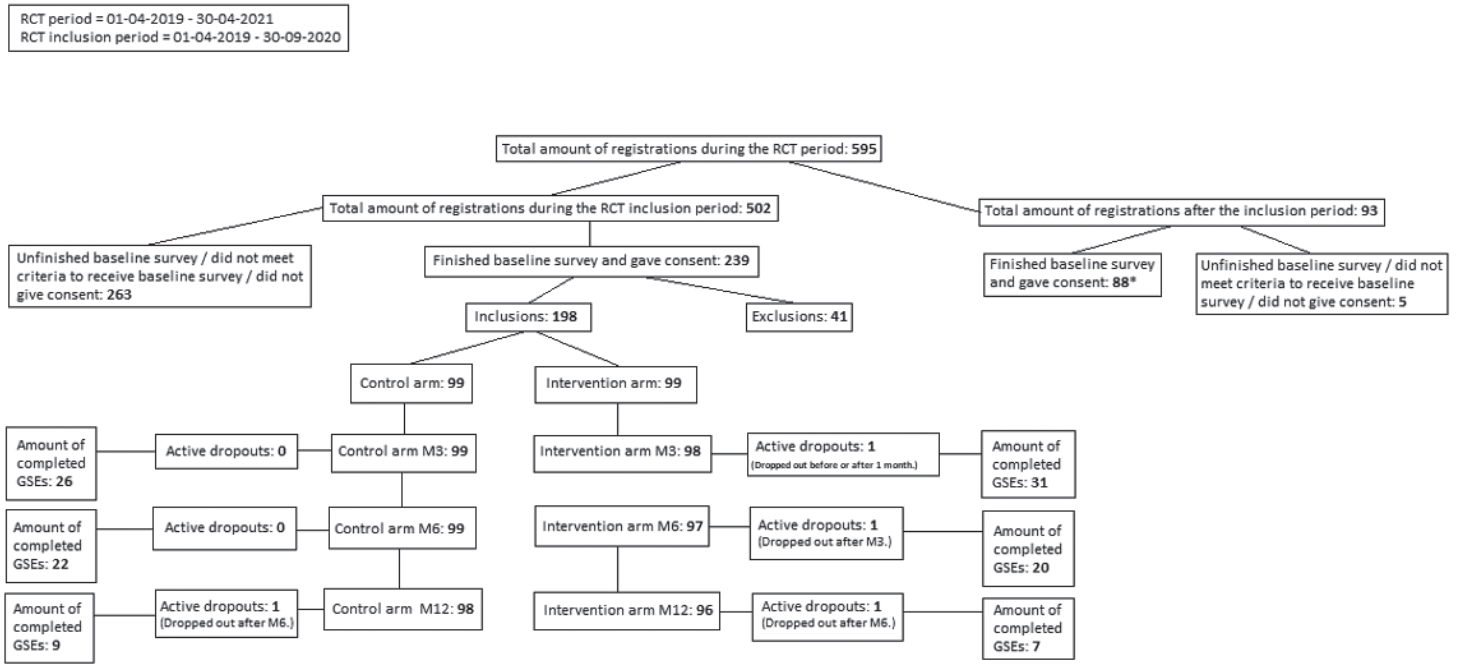

Figure 1. Registration flowchart during the randomized control trial (RCT) period (2019-2021). Only the group that registered within the first 12 months was followed until 12 months, and the group that registered in the additional inclusion period was followed until 6 months. GSE: General Self-Efficacy Scale. *Women who completed the baseline survey and gave consent after the inclusion period gained access to the control version of the intervention.

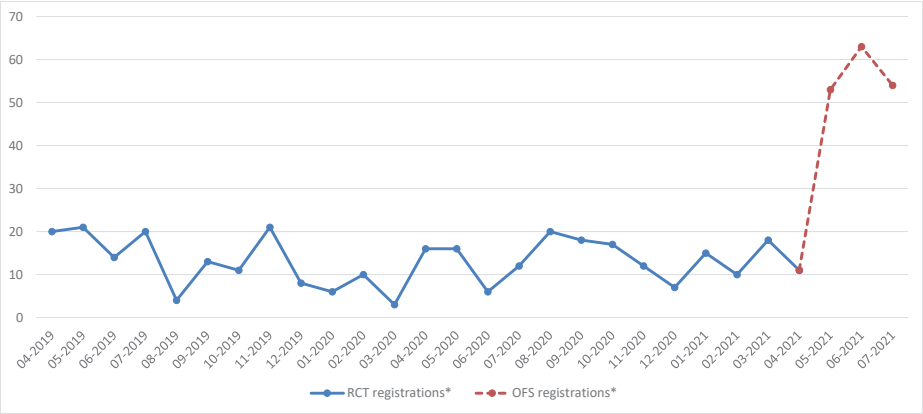

Figure 2. Randomized controlled trial (RCT; 2019-2021) and open feasibility study (OFS; 2021) registrations per month. For the RCT: all women who completed their registrations, regardless of inclusion or exclusion in the RCT study. For the OFS: all women who completed their registrations, anonymous (N=152) and registered accounts (N=18; mean age 36 years).

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Supplementary materials

Multimedia Appendix 1. Primary and secondary outcome measures and measurement timepoints.

Outcome	Measure
Self-efficacy	**General Self-Efficacy Scale (GSE) – *Primary outcome*** Range: 10-40. General population's average = 29. A higher score = a higher level of self-efficacy. [1-3]
Anxiety and depression	**Hospital Anxiety and Depression Scale (HADS) – *Secondary outcome*** Range: 0-21. A lower score = less symptoms of anxiety or depression. [4-6]
Awareness	**Contemplation Ladder – *Secondary outcome*** Range: 0-10. A higher score = a higher level of awareness[c]. [7]
Perceived social support	Medical Outcomes Survey – Social Support (MOS-SS5) – *Secondary outcome* Range: 5-25. A higher score = a higher level of perceived support. [8-9]
Fear of partner	Visual Analogue Scale (VAS) – *Secondary outcome* Range: 1-10. A lower score = a lower level of fear of partner.
Perceived support by website	Visual Analogue Scale (VAS) – *Secondary outcome* Range: 1-10. A higher score = a higher level of perceived support.
Users' evaluation of the intervention	Web Evaluation Questionnaire (WEQ)
Demographics, IPVA	General Characteristics Questionnaire (GCQ)

Note: participants received a maximum of two e-mail reminders if they did not complete a questionnaire timepoint. | [a]M12: Only participants who registered between 1 April 2019 and 1 April 2020 received follow-up questionnaires at 12 months. Participants who registered after this period received the last follow-up questionnaire at 6 months (M6). | [b]The WEQ was filled out one month after the first login (M1), at three and six months (M3 + M6).

	Hypothesis	Timepoint(s)
	The intervention group has a higher mean score at M6 than the control group.	M0, M3, M6, M12[a]
	The intervention group has lower mean scores on anxiety and depression at M6 than the control group.	M0, M3, M6, M12[a]
	The intervention group has a higher mean score at M6 than the control group.	M0, M3, M6, M12[a]
	The intervention group has a higher mean at M6 score than the control group.	M0, M3, M6, M12[a]
	The intervention group has an overall lower mean score than the control group.	M0, M3, M6, M12[a]
	The intervention group has an overall higher mean score than the control group.	M3, M6, M12[a]
	The intervention group has an overall higher mean score than the control group.	M1, M3, M6[b]
	N/A	M0, M3, M6, M12[a]

Sending the WEQ at M3 is a protocol deviation, we decided to add this timepoint to increase the opportunity of gathering valuable user feedback. | [c]A participant could also score lower because they left the abusive partner or the violence stopped, for example 0 = 'I don't think about leaving my (ex-)partner and / or seeking help. The relationship is not abusive (anymore).'

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Multimedia Appendix 2. Check for selective attrition bias at the M6 survey on self-efficacy.

Measured at MO (baseline)	Follow-up group (N=42)	Attrition group (N=156)	p-value
Self-efficacy (GSE)[a]	M=30.05	M=27.64	p=.028*
Anxiety (HADS)[a]	M=13.38	M=12.97	p=.570
Depression (HADS)[a]	M=9.52	M=9.26	p=.276
Fear of partner (VAS)[a]	M=6.02	M=5.77	p=.575
Motivation ladder[a]	M=6.88	M=6.51	p=.544
Social support (MOS-SS5)[a]	M=16.07	M=15.79	p=.735
Gender characteristics (BSRI)[a]	M=2.38	M=2.52	p=.362
Age[a]	M=37.88	M=34.58	p=.023*
Sexual orientation[a]	M=1.29	M=1.15	p=.166
Last IPVA incident[a]	M=3.67	M=3.53	p=.522
Study arm[b]	Control group = 52,4% Intervention group = 47,6%	Control group = 49,4% Intervention group = 50,6%	p=.728
Children (yes/no)[b]	Yes = 66,7% No = 33,3%	Yes = 64,1% No = 35,9%	p=.758
Education level (high/low)[b]	High = 59,5% Low = 40,5%	High = 48,1% Low = 51,9%	p=.188
Living together with or without (ex-)partner[b]	With (ex-)partner = 40,5% Without (ex-)partner = 59,5%	With (ex-)partner = 43,6% Without (ex-)partner = 56,4%	p=.717
Country of birth is the Netherlands (yes/no)[b]	Yes = 88,1% No = 11,9%	Yes = 85,3% No = 14,7%	p=.639
Cultural identification is (partially) Dutch (yes/no)[b]	Yes = 90,5% No = 9,5%	Yes = 91,7% No = 8,3%	p=.807
Physical IPVA (yes/no)[b]	Yes = 66,7% No = 33,3%	Yes = 78,2% No = 21,8%	p=.121

Multimedia Appendix 2. Continued

Measured at MO (baseline)	Follow-up group (N=42)	Attrition group (N=156)	p-value
Psychological IPVA (yes/no)[b]			p=.162
	Yes = 100%	Yes = 95,5%	
	No = 0%	No = 4,5%	
Sexual IPVA (yes/no)[b]			p=.033*
	Yes = 47,6%	Yes = 30,1%	
	No = 52,4%	No = 69,9%	
Economic IPVA (yes/no)[b]			p=.932
	Yes = 42,9%	Yes = 43,6%	
	No = 57,1%	No = 56,4%	

*p<.05. | [a]T-tests. | [b]Chi-square tests.

Multimedia Appendix 3. Login prerequisites for the intervention during the OFS.

Anonymous account	Registered account (for access to the forum)
- Nickname	- Nickname
- Password	- Password
	- E-mail address
	- Gender identity (only women can gain access)[a]
	- Age (only 18+ years old can gain access)
	- Do you have personal experience with an unsafe relationship, a relationship in which you were not free, or intimate partner violence and abuse?[b]

[a]Answer options: woman, man, other. | [b]Additional information that was provided for this question: 'Intimate partner violence and abuse is every type of violence between (ex-)partners. Types of violence and abuse: emotional / psychological (e.g. humiliation, manipulation, threats, stalking); physical (e.g. hitting, kicking, shoving); financially / economically (e.g. not being allowed to work or study or to have your own bank card, partner withholding your wages); sexually (e.g. forced to perform sexual acts, rape, sextortion, online sexual abuse).

Multimedia Appendix 4. User data from the RCT study arms and OFS group.

Intervention group RCT (N=99)
Top 5 visited pages[a]:
1) **Forum** (AoV[a]=601 | UV[a]=27)
2) **Chat** (AoV=308 | UV=36)
3) **Contact (module: My environment)** (AoV=161 | UV=33)
4) **Seek help (module: Help)** (AoV=136 | UV=31)
5) **Contact (Contact homepage)** (AoV=134 | UV=31)
- Minutes spent on intervention in total: mean = 44,4 | range = 0 – 459
- **Amount of logins:** mean = 3,3 | range: 0 – 44
- Logged in at least once: N=77
- Never logged in: N=22
Control group RCT (N=99)
Top 5 visited pages[a]:
1) **Seek help (module: Help)** (AoV=211 | UV=47)
2) **Help (homepage of Help module)** (AoV=102 | UV=50)
3) **News, books and more** (AoV=84 | UV=26)
4) **Start here (introduction page)** (AoV=80 | UV=45)
5) **Contact (Contact homepage)** (AoV=28 | UV=15)
- Minutes spent on intervention in total: mean = 13,3 | range = 0 – 124
- Amount of logins: mean = 2,1 | range: 0 – 13
- Logged in at least once: N=73
- Never logged in: N=26
OFS (N=170)
Top 5 visited pages[a]:
1) **Forum** (AoV=429 | UV=80)[b]
2) **Seek help (module: Help)** (AoV=190 | UV=71)
3) **Types of help (module: Help)** (AoV=120 | UV=111)
4) **What is IPVA? (module: My situation)** (AoV=100 | UV=97)
5) **Types of violence (module: My situation)** (AoV=88 | UV=85)
- Minutes spent on intervention per visit: mean = 16,1 | range = 1 – 155
- Amount of logins: mean = 1,26 | range: 1 – 4
- Logged in at least once: N=170
- Never logged in: N=0

[a]The overview page that appears when logging in is not taken into account here. | AoV = total amount of visits. | UV = total amount of unique visitors. | [b]Part of the unique visitors registered to obtain access to the forum (N=18), others visited the introduction page but did not obtain access to the forum (N=62).

Multimedia Appendix 5. Feasibility data from Matomo and SAFE's social media accounts and messages.

Matomo during OFS (01-05-2021 – 31-07-2021)	
Mean time spent on pre-intervention homepage:	1,37 minutes
Mean amount of actions on pre-intervention homepage:	3
Mean bounce rate on pre-intervention homepage:	49,7%
Top 3 devices:	1) Smartphone 2) Desktop 3) Phablet (combination of smartphone and tablet)
Top 3 referring sources:	1) Direct entry 2) Via websites 3) Via search engines
Top 3 referring websites:	1) www.slachtofferwijzer.nl 2) www.huiselijkgeweld.nl 3) www.hulpapp.nl
Amount of unique clicks on outgoing links on pre-intervention homepage targeted at (1) male IPVA survivors and at (2 + 3) IPVA perpetrators:	1) www.mannenmishandeling.nl: **6** 2) www.deplegerinons.nl (now known as 'De Pion'): **7** 3) www.dewaagnederland.nl/clienten-en-familie/behandeling-volwassenen/: **2**
Social media accounts (various time periods)	
Twitter (07-01-2019 – 31-07-2021)	Amount of followers: **754**
Instagram (13-08-2019 – 31-07-2021)	Amount of followers: **1462**
Instagram (02-06-2021 – 31-07-2021)	Female-male ratio: **84,4% - 15,6%** Largest age group: **25 – 34 (31%)**

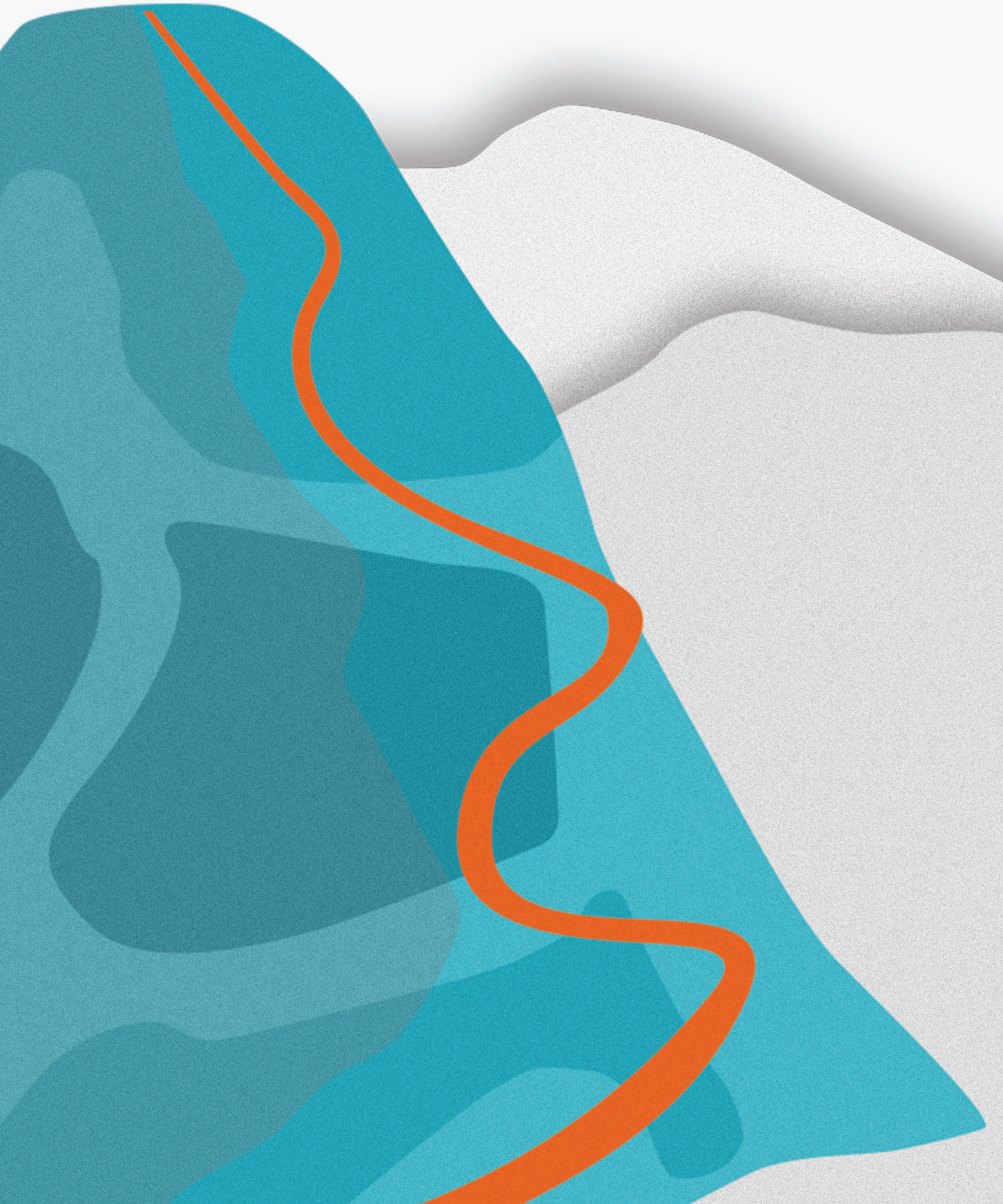
Multimedia Appendix 5. Continued

Facebook (12-11-2018 – 31-07-2021)	
	476 people follow SAFE on Facebook Female-male ratio: **93% - 5%** Largest age group: **35 – 44 (30%)** **385** people like SAFE on Facebook Female-male ratio: **94% - 5%** Largest age group: **35 – 44 (29%) and 45 – 54 (29%)**
SAFE mailbox, online contact form, and PMs[a] (01-04-2019 – 31-07-2021)	
Amount of requests for help from survivors (non-registered and registered for SAFE): **60**	
Amount of requests for help from bystanders (e.g. family members, friends, neighbors, colleagues): **19**	
Amount of requests from professionals for more information about SAFE: **72**	
Amount of requests for help from male survivors and from bystanders about a male survivor, and amount of questions on why SAFE is only available for female survivors: **11**	

[a]Messages received via the SAFE social media accounts were not taken into account here. People could send messages to the mailbox and via the online contact form without having to be registered for the SAFE intervention. The PM (personal message) option was available for every woman that registered with SAFE.

Multimedia Appendix 6. Information on the eHealth developer costs of the SAFE intervention.

Development (one-time costs)	Maintenance (yearly costs)
€34.100	€2.580



CHAPTER 5

Key factors in helpfulness and use of the SAFE intervention for women experiencing intimate partner violence and abuse: Qualitative outcomes from a randomized controlled trial and process evaluation.

This chapter is based on the following article: van Gelder, N. E., Ligthart, S. A., van Rosmalen-Nooijens, K. A. W. L., Prins, J. B., & Oertelt-Prigione, S. (2023). Key factors in helpfulness and use of the SAFE intervention for women experiencing intimate partner violence and abuse: Qualitative outcomes from a randomized controlled trial and process evaluation. Journal of Medical Internet Research, 25, e42647. doi:10.2196/42647

Abstract

Background: Many women experience at least one type of intimate partner violence and abuse (IPVA), and although various support options are available, we still know relatively little about web-based interventions for IPVA survivors. We conducted a qualitative evaluation of the SAFE eHealth intervention for women experiencing IPVA in the Netherlands, complementing the quantitative evaluation on self-efficacy, depression, anxiety, and multiple feasibility aspects.

Objective: This study assessed the users' experiences and what, according to them, were useful and helpful aspects of the intervention.

Methods: The intervention consisted of modules with information on relationships and IPVA, help options, physical and mental health, and social support. It also contained interactive elements such as exercises, stories from survivors, a chat, and a forum. A randomized controlled trial was conducted with an intervention arm receiving the complete version of the intervention and a control arm receiving only a static version with the modules on relationships and IPVA and help options. We gathered data through open questions from surveys (for both study arms; n=65) and semistructured interviews (for the intervention study arm; n=10), all conducted on the web, during the randomized controlled trial and process evaluation. Interview data were coded following the principles of open thematic coding, and all qualitative data were analyzed using qualitative content analysis.

Results: Overall, most users positively rated the intervention regarding safety, content, and suiting their needs, especially participants from the intervention study arm. The intervention was helpful in the domains of acknowledgment, awareness, and support. However, participants also identified points for improvement: the availability of a simplified version for acute situations; more attention for survivors in the aftermath of ending an abusive relationship; and more information on certain topics, such as technological IPVA, support for children, and legal affairs. Furthermore, although participants expressed a prominent need for interactive contact options such as a chat or forum, the intervention study arm (the only group that had these features at their disposal) mainly used them in a passive way—reading instead of actively joining the conversation. The participants provided various reasons for this passive use.

Conclusions: The positive outcomes of this study are similar to those of other web-based interventions for IPVA survivors, and specific points for improvement were identified. The availability of interactive elements seems to be of added value even when they are used passively. This study provides in-depth insight into the experiences of female IPVA survivors with the SAFE eHealth intervention and makes suggestions for improvements to SAFE and comparable web-based interventions for IPVA as well as inspiring future research. Furthermore, this study shows the importance of a varied assessment of an intervention's effectiveness to understand the real-world impact on its users.

Trial registration: Netherlands Trial Register NTR7313; https://tinyurl.com/3t7vwswz

Introduction

Approximately 30% of women worldwide experience physical or sexual violence by a current partner or ex-partner during their lifetime (Devries et al., 2013; FRA, 2014; WHO 2021a). Intimate partner violence and abuse (IPVA) occur in various forms: physical, psychological, sexual, and economic (WHO, 2013). Although many women encounter this type of violence, it is still difficult for survivors to seek help. Feelings of fear, shame, and guilt discourage them from reaching out to their informal network or professional help. Other obstacles such as a lack of knowledge of IPVA and possible help options, logistical issues, and the fear of losing their children negatively influence the help-seeking process as well (O'Doherty, Taft, McNair, & Hegarty, 2016; Satyen, Rogic, & Supol, 2019).

Especially in light of the COVID-19 pandemic (WHO, 2021b), with a high rise of IPVA, web-based tools have become more important (Muldoon et al., 2021; Peterman et al., 2020; Piquero et al., 2021). In the Netherlands, several domestic violence and abuse (DVA) organizations have started to offer this type of support, for example, via an anonymous chat (van Gelder et al., 2021). Web-based means have the potential to lower the threshold for disclosing IPVA and seeking help. Although web-based interventions do not aim to and cannot replace regular (face-to-face) help, they do have the ability to reach survivors who otherwise might not be reached. Overall, survivors feel that a web-based medium such as an app or website is helpful and has advantages in accessibility, anonymity, privacy, trust, nonjudgmental tone, awareness, help seeking, social support, and autonomy (Ford-Gilboe et al., 2020; Hegarty et al., 2019; Koziol-McLain et al., 2018; Lindsay et al., 2013; Tarzia, Cornelio, Forsdike, & Hegarty, 2018; Tarzia, Iyer, Thrower, & Hegarty, 2017; van Gelder et al., 2022; van Rosmalen-Nooijens, Lo Fo Wong, Prins, & Lagro-Janssen, 2017a; van Rosmalen-Nooijens, Lo Fo Wong, Prins, & Lagro-Janssen, 2017b). However, web-based support will not be suitable for everyone and, although in the Netherlands most of the general population has internet access and many have adequate digital skills (Centraal Bureau voor de Statistiek, 2020a; Centraal Bureau voor de Statistiek, 2020b), not everyone will have the opportunity to use a web-based intervention (Al-Alosi, 2020; El Morr & Layal, 2020; Williams et al., 2021).

This study focuses on the qualitative evaluation of the Dutch eHealth intervention SAFE (www.safewomen.nl) for women who experience IPVA. The intervention is inspired by a Dutch (Feel the ViBe) and an Australian (I-DECIDE) web-based intervention for DVA and IPVA survivors, respectively (Hegarty et al., 2015; van Rosmalen-Nooijens et al., 2013). SAFE is based on scientific insights and the views of survivors and

professionals (van Gelder et al., 2022) and aims to improve self-efficacy, mental health, and awareness and encourage women to seek help. The evaluation consisted of a randomized controlled trial (RCT), a process evaluation, and an open feasibility study. The study protocol and the outcomes of the quantitative evaluation have been described elsewhere (van Gelder et al., 2020; van Gelder et al., 2023). The RCT and process evaluation participants were divided into 2 groups, with the intervention study arm receiving the complete version of the intervention and the control study arm receiving a static version with only the essential information on IPVA and help options (this is further explained in the Methods section and Textbox 1). In short, the quantitative evaluation showed no significant differences between the study arms in self-efficacy and mental health outcomes. However, it did show positive outcomes for feasibility aspects, such as demand and acceptability. Furthermore, both groups significantly improved over time in anxiety and fear of their partner, and both groups were in general satisfied with SAFE, with the intervention group being significantly more positive (van Gelder et al., 2023).

This article describes the outcomes of the qualitative evaluation, which consisted of the users' experiences with and views on the SAFE eHealth intervention. It provides in-depth insight into what female IPVA survivors need in web-based support and how, according to them, it can benefit them.

Methods

Ethical considerations

This study was conducted in compliance with the Declaration of Helsinki, and all study components were approved by the Medical Ethics Committee of Arnhem-Nijmegen (NL68268.091.18; dossier 2018-5009).

Informed consent and participation

All participants in the RCT received a digital information letter and provided consent digitally through checking a box. After a mandatory waiting period of 24 hours to ensure sufficient time for making the decision to participate, they were asked to digitally provide consent a second time before they were enrolled. All participants remained anonymous; they did not have to use their real names anywhere. The women who completed all questionnaires received a generic digital gift card for €20 (US $22.42). The protocol paper of this study elaborates on the ethical considerations (van Gelder et al., 2020).

RCT participants were asked if we were allowed to contact them via e-mail for follow-up research. Only the women who consented to this were invited to participate in a web-based interview. Women who responded positively digitally received an information letter and signed an informed consent form. The participants could remain anonymous as they did not have to use their real names, and during the web-based interview, they could leave the camera off. All personal identifiers were removed from the quotes in this paper. Interview participants received a generic digital gift card for €20 (US $22.42) after the interview was conducted. We refer to the protocol paper for further details on the ethical considerations (van Gelder et al., 2020).

Study design

This study consisted of an RCT and a qualitative process evaluation. For the RCT, participants were divided into 2 age groups (18-30 years and 31-50 years) to ensure an even age division across groups, and they were randomly assigned to the control or intervention group. The control group had access to a static version of the intervention containing modules with essential information on IPVA and help options, including a help database. The intervention group received the complete intervention, which comprised all the elements in the static version and also included extra modules on (mental) health and social support and interactive components such as short movies from IPVA survivors, a chat, and a forum (Textbox 1). The intervention did not have a predetermined order that participants needed to follow; they could choose how and when to use certain components of the intervention according to their personal situation and needs. For a more elaborate description of the intervention and study components, we refer to the earlier published protocol (van Gelder et al., 2020) and the quantitative evaluation (van Gelder et al., 2023). The qualitative parts of the RCT and process evaluation are discussed in this study, and they consist of data from open questions, the chat and forum, and interviews.

Recruitment, data acquisition and measures

For the RCT, recruitment mainly took place on the web through social media and presence in the (web-based) media. Women aged between 18 and 50 years who self-identified as IPVA survivors were included between April 1, 2019, and October 1, 2020. They filled out a General Characteristics Questionnaire (GCQ) at 3, 6, and 12 months and a Web Evaluation Questionnaire (WEQ) at 1, 3, and 6 months. The WEQ contained open questions on evaluating the intervention, such as "What do you think is positive or helpful, and what are points of improvement?" and "Do you feel safe on the website? Please explain why (not)." The data from the chat and forum were collected between April 1, 2019, and April 1, 2021.

For the process evaluation, participants from the RCT intervention group were recruited. This evaluation consisted of semi-structured interviews that were conducted between February 2, 2021, and March 19, 2021. All interviewees registered for the SAFE intervention between 6 and 22 months before the interview (mean 13, SD 5.6 months). The interview guide (Multimedia Appendix 1) contained questions on the women's personal experiences with IPVA and their experiences with the intervention.

Study procedures

Participants enrolled in the study digitally received an information letter and provided consent before participating. They also received the aforementioned questionnaires at various time points. Regardless of whether the participants filled out these questionnaires, they retained access to the intervention also when the follow-up period was completed. During the RCT period, we automatically gathered data from the chat and forum.

As stated before, participants from the RCT intervention group who agreed to being approached for additional research were contacted via email with an invitation to participate in the interview study. They received a digital information letter and signed an informed consent form. The interviews were conducted by a female researcher (NEvG) with previous interviewing experience with IPVA survivors and a background in social sciences. The audio from all interviews was recorded, transcribed verbatim, and anonymized.

Analysis

The data from the chat and forum were summarized and analyzed through qualitative content analysis (Henning, Van Rensburg, & Smit, 2004), highlighting the themes and participants' questions that were discussed. The data from the open questions stemming from the GCQ and WEQ were summarized and analyzed through qualitative content analysis as well (Henning, Van Rensburg, & Smit, 2004). Quantitative data from the WEQ were collected at multiple time points (question on grading the website after 1 month: n=28; question on grading the website after 3 months: n=15; question on grading the website after 6 months: n=13). To avoid overlap and, as a result, a biased image of the users' experiences, only the most recent outcomes were included in the analysis for participants who filled out multiple follow-up surveys as this best reflects their concluding, overall perception of the intervention after a longer period of use (van Gelder et al., 2023). All qualitative data from the GCQ (question on experience with SAFE after 3 months: n=35; question on experience with SAFE after 6 months: n=26; question on experience with SAFE after 12 months: n=6) and the WEQ were included in this study's analysis to gather

all reflections and feedback on the intervention. For these qualitative outcomes of the surveys, a comparison between the control and intervention arms was made if applicable, and attention was paid to both the similarities and differences in experiences.

All interview data were coded and analyzed using ATLAS.ti (version 8.4.20; ATLAS.ti Scientific Software Development GmbH; Friese, 2011). Coding was conducted by 1 researcher (NEvG) and 2 research assistants (Arrantxa Groot and Lieke Gommans) independently following the principles of open and thematic coding (Ayres, 2014). After several discussion rounds, consensus was reached on the codes, categories, themes, and the final codebook with which all interviews were reread to ensure that all data were included and correctly coded. The data were analyzed using qualitative content analysis (Henning et al., 2004). Text segments were used to illustrate the outcomes. The data from various sources (questionnaires, interviews, chat, and forum) were analyzed separately and subsequently combined into 4 main themes that were derived from the data across the sources: use and ease of use, safety, level of satisfaction and helpfulness, and points of improvement.

Results

Participant characteristics

The survey group consisted of 65 women from the control (37/99, 37%) and intervention (28/99, 28%) study arms who filled out one or more follow-up GCQs and WEQs (Table 1). This group had a mean age of 38 years when they registered for SAFE (month 0), and 88% (57/65) were born in the Netherlands. Approximately 91% (59/65) identified (partially) as Dutch, 58% (38/65) were highly educated, 63% (41/65) were employed, 91% (59/65) identified as heterosexual, and 69% (45/65) of the participants had children.

In the interview group, initially 12 women wanted to participate, but 2 (17%) changed their minds. Therefore, this study sample consisted of 10 women—thus still reaching code saturation (Hennink, Kaiser & Marconi, 2017) —from the intervention study arm with a mean age of 43 years at month 0 (Table 2); 80% (8/10) of them were also part of the aforementioned survey group. Similar to the survey group, most women were born in the Netherlands (9/10, 90%), and 70% (7/10) of them identified solely as Dutch. The group was relatively highly educated (7/10, 70%), half (5/10, 50%) of the women were employed, and most of them were heterosexual and had children (8/10, 80% in both cases). In the survey and interview group together, most (40/67, 60%) experienced the last IPVA incident in the week of registering for SAFE (month 0).

Use and ease of use

For the control group (n=99), the database with help options was the most popular (Multimedia Appendix 2). This differed from the intervention group (n=99), which visited the chat and forum the most (chat: 308 times by 36/99, 36.4% of the women; forum: 601 times by 27/99, 27.3% of the women; Multimedia Appendix 2). However, only a small number of women actively posted one or more messages (chat: 20/99, 20.2%; forum: 2/99, 2%). In the forum, a participant posted a question on the study, and another posted a message asking for advice regarding death threats from her partner, which a community manager (CM; a (mental) health care professional that manages the platform) responded to. Third-party stories of survivors taken from web-based platforms and magazines and posted by the CMs were the most accessed features on the forum. Furthermore, transcripts from the themed chats were shared on the forum, and these were frequently read as well. The organized themed chats on psychological violence and abuse were the most popular (Multimedia Appendix 3). In the live themed chats, participants, survivor-professionals (SPs; survivors who received training on how to use personal experiences in supporting other survivors or DVA and IPVA professionals who had personal survivor experience), professionals, and CMs discussed experiences, exchanged advice and tips, and provided encouragement and support:

Participant 429: "I'm staying now because it's been going well for a month."
Survivor-professional (SP): "He's playing upon your hope and empathy."
Anonymized participant: "You always hope it'll be better again. I've buried my head in the sand for a long time as well."
Participant 429: "Yeah, I do constantly remain hopeful. But my boyfriend says that I have no empathy haha!"
...
SP: "You keep holding on because you get enough 'good' moments still. Unfortunately, those moments are part of the game."
Participant 429: "Yeah, that's right but sometimes I also hear that we complement each other so well. I have the patience of a saint, he doesn't. And sometimes he's really grateful for that. It's so contradictory sometimes. One moment everything's peaches and cream and after that it suddenly explodes."
...
Participant 429: "I admire that you took these steps. I hope I will be able to do so as well."
SP: "I have faith in you [429]."
CM: "I think it's really good that you have a lot of insight already, [429]!"

With regard to the relatively limited use of the chat, the interviewees provided some explanations: if it is not very active, it is not encouraging to start a conversation, and if a few women are already having a conversation, other women may feel uncomfortable joining them. In addition, some may simply not feel the need to use the chat; a few interviewees said that it could even be triggering instead of helpful. Others can find it difficult to disclose their own experiences or dislike having to type their story. A woman said that she would like video calling in small groups to have a sense of more real contact that is still very accessible. In total, 20% (2/10) of the interviewees said that it was easier for them to talk to a friend or professional than to use the chat. Some interview participants faced obstacles, such as technological difficulties, not being able to find the chat on the website, or the timing of the themed chats, that could get in the way of their children's bedtime or interfered with their abusive partner being home:

> *"I thought that [themed chats] was very good…However, what I noticed was because I have a child, that the themed chat is often around 19:00 or 20:00. But around that time many parents put their children to bed, so that's quite impractical… I think also in the evening, you know, when you're in an abusive relationship and the partner's at home, well then you're not going on the chat." [Participant 290]*

There were similar explanations for the passive forum use, and interviewees said that the forum was less visible for them than the chat. They were happy to learn that they could read the previous themed chats on the forum as well; apparently, that was not always clear even though this was stated at the end of every themed chat and in the invitation emails for the themed chats as well.

Regarding ease of use, many of the questionnaire participants and some of the interview participants reported that they did experience some obstacles. They attributed this to a lack of a clear overview of where they could find certain items on the website. A more intuitive and immediate structure might be needed, especially for women who are in a very stressful situation that causes problems with processing information. However, other participants did not identify this issue and found the website very accessible and easy to navigate. Reactions to use on a mobile device were mixed, with some participants extremely satisfied and others preferring a big screen for viewing. A few women also experienced log-in problems, but these were always solved quickly:

> *"Sometimes I found it difficult to use the website, to find certain things and to understand how to use it. That took a while to master. I think it's also a matter of clicking through the website. You should actually go through all the steps but I think that most people are in survival mode and can't go through all themes. It's actually very helpful to go through all the steps because it increases your awareness." [Participant 322]*

Surprisingly, a few interviewees stated that they thought that the intervention had changed over time, although in fact nothing was modified during the RCT period except the constant updates in the dynamic sections, such as chat, forum, "News and more," and the help database. This also reinforces the assumption that the perception of the website and its ease of use and accessibility might differ depending on the current situation of the user:

> *"I can't remember exactly when I've last seen the website but I have the impression that it's really changed in the meantime. Yesterday I looked at the mobile website and I think it's really good because it also works well on a mobile phone and that's not always the case for websites. I think the design is great and super clear." [Participant 545]*

Safety

Most survey participants (39/43, 90.7%; control and intervention groups combined) and all interview participants felt that the intervention was safe to use. Many participants mentioned the safety measures—escape button, a pop-up reminding to call 112 (the Dutch emergency telephone number) when in immediate danger, safety instructions, and contact emails sent under the title "Menstrual calendar." Anonymity through being able to use a nickname was important to them, and they felt that their privacy was ensured by an independent, trustworthy party (university) that provided a shielded space. Knowing that there were fellow survivors who used SAFE also contributed to their sense of safety. Furthermore, some participants discussed circumstantial reasons for why they felt they could use the intervention safely, such as them not living with their abusive partner anymore or thinking that their partner did not know about the intervention (Multimedia Appendix 4).

However, a few participants from the survey and interview groups expressed worries about the security of their personal data and data being reported to other people or authorities. An interviewee thought that the escape button could also scare off some women who might feel that their situation is not severe enough and that they do not belong in the target group:

"If I was still with my ex when I discovered this website then I would've been very happy with the escape button. It's very good that you've thought about that but then I also think...Jeez, that's actually really intense. And maybe that can also, especially for someone who's in such a relationship, in a way be a mirror to show that the situation is that unsafe." [Participant 422]

"And the way you e-mail [i.e., using "menstrual calendar" as e-mail subject], that's also fantastic. I can imagine it's necessary. I dealt with someone who controlled me in various ways, also digitally, so this really is a safe way to do it." [Participant 322]

Level of satisfaction and helpfulness

Within the survey group, participants in the intervention study arm graded the intervention significantly higher than those in the control study arm (mean 7.82, SD 1.859 and mean 6.07, SD 0.951, respectively; $p<.001$). Most participants from the intervention group (Multimedia Appendix 4) and the interview group said that the website was clear and helpful. They appreciated the information and help options provided and the level of safety and privacy:

"If I'd had SAFE when I was still in that violent relationship it would've helped me tremendously." [Survey participant 549; intervention group]

The ways in which the intervention was helpful were discussed in the interview group. Most women felt that SAFE was helpful in promoting awareness, self-reflection, acknowledgment, and processing and in providing support. Many said that it helped them realize that they were not alone in experiencing IPVA, especially because of the stories and short videos from survivors. Although not all interviewees felt that the intervention influenced their mental health, for example, in reducing stress, it did seem to help them be motivated to take action and feel empowered. The questionnaires, which were technically a research component instead of an intervention component, turned out to be helpful as well. A few interview participants said that they provided them with useful new insights:

"Well I do think that it [SAFE] brought some peace just because you're listened to. It also played a role in help seeking, I learned to acknowledge that it's okay to accept help. I think that started with SAFE because you open up via the website first and then you can do the same with professional help. It's hard to talk about what happened but I think SAFE did help with this." [Participant 647]

> *"I did regularly look if there was something I could use, just to deal with it in a constructive manner. So not just feeling those negative emotions but to also work on a solution. So indirectly you do provide a sort of light at the end of the tunnel…It helps when there's a place where you…yeah, fellow survivors or where you can share your story…even if it's just looking for information it can help to lower stress." [Participant 226]*

Regarding SAFE's role in help seeking, some interviewees stated that they did not need help from other resources at that time or that professional help was already involved. Others did not feel that the intervention immediately helped them in contacting professional help, but some said that it did help in navigating the professional help realm and how to deal with professionals and in providing ideas that they could discuss with professionals:

> *"…it's really that low-threshold approach. To just be able to pour your heart out and to see if I can create a road map for myself to get out of this, that's really great. Yeah, very important." [Participant 226]*

The intervention seemed to play a role in breaking the taboo around IPVA and making it a topic of discussion as well according to many interview participants. One woman said that SAFE encouraged her to talk about her situation with people in her community. Many interviewees wanted to share their experiences with other survivors. The help options, including options for contact with fellow survivors, and the contact options (forum and [themed] chat) partially provided a solution for this need:

> *"…I started talking about it with people in my environment and they said they didn't know it was this bad already…Many people didn't believe me and my ex-partner comes from a closed community. So you didn't talk about this with people outside the community…But now I think "suit yourself"…and I noticed that I found something that gave me a push and helped me to start talking about it." [Participant 647]*

Furthermore, interviewees appreciated the layout, although one woman suggested a calmer design, and the option to tailor the intervention to their own needs as there was no prescribed order for using the intervention.

Points of improvement

Some participants from the survey group (control arm and intervention arm combined) and the interview group reported a lack of clarity and overview. They could not always find what they were looking for, and some said that there were so many help options that it could be overwhelming. It would help if the information was tailored to specific IPVA situations and dynamics. In addition, a few interviewees mentioned tips for functionalities that were already present but that were apparently not visible or accessible enough, such as filter options in the help database and the forum.

Furthermore, the control group specifically mentioned the lack of interactive components and contact options such as a forum or chat and stories from survivors as these were only available to the intervention group. The intervention group reported the absence of certain types of information that they felt should be part of the intervention, for example, information on divorce and children and on why a partner becomes abusive (Multimedia Appendix 4). In addition, the interview group expressed a need for more information on legal affairs, professional help trajectories, and technological IPVA (e.g., stalking and intimidating via social media, hacking, and tracking):

> *"It didn't help me much. The information was already known to me but I mostly sought contact with fellow survivors. I didn't find that." [Survey participant 641; control group]*

In total, 20% (2/10) of the interview participants stated that they had some doubts about whether they were part of SAFE's target group as the home page seemed to focus on more severe violence, and women who did not have that experience may feel that their situation was not severe enough. One interviewee also said that she was looking for information and support for the phase after leaving their abusive partner, whereas the intervention seemed mainly focused on women who were still in the abusive relationship.

Finally, a few interviewees provided some other points for improvement and tips, for example, availability in multiple languages, webinars with more in-depth information, encouraging women to take good care of themselves, and a button on the website that immediately contacts emergency services and sends their location.

Discussion

In the context of the Dutch SAFE eHealth intervention for women who experience IPVA, we investigated its impact (van Gelder et al., 2023) and the structural requirements to such a web-based platform in order to maximize its user-friendliness and the impact of the intervention. Herein we present the results of the secondary aim.

Principal findings and comparison with prior work

Consistent with findings from other studies, we found that participants rated the intervention in positive terms and found it helpful, for example, in awareness and feeling supported (Ford-Gilboe et al., 2020; Gloor & Meier, 2020; Hegarty et al., 2019; Lindsay et al., 2013; Matthews et al., 2017; Tarzia et al., 2017; van Gelder et al., 2022), with a more significant impact in the intervention study arm (Ford-Gilboe et al., 2020). The difference between study arms probably arose because this group received a more elaborate and interactive version, and they spent significantly more time on it (van Gelder et al., 2023). Participants also expressed points for improvement, such as a need for certain types of (additional) information on, for example, digital IPVA and legal affairs. Furthermore, although most found the intervention safe and easy to use (Ford-Gilboe et al., 2020; Glass et al., 2022; Hegarty et al., 2019; Lindsay et al., 2013; Tarzia et al., 2017), some also experienced difficulties in navigating the website and reported a lack of clarity and overview.

In developing these types of interventions, it seems important to provide survivors' stories, for example, through videos and third-party stories, and contact options such as a chat or forum. However, making these features available does not necessarily translate into their active use. Nevertheless, passive use, such as solely reading the posts of other users, could also be a valuable source of support for some IPVA survivors (O'Neill, 2018; Preece, Nonnecke, & Andrews, 2004; Tarzia et al., 2017; van Gelder et al., 2022; van Rosmalen-Nooijens et al., 2017). Some women in this study expressed a need for more interactive contact, but they faced certain obstacles at various levels: 1) practical (e.g. timing of the themed chats and not knowing where to find the chat or forum on the platform); 2) personal (e.g. no need for a chat or forum and not wanting to share their own experiences); and 3) social (e.g. preference for in-person contact and hesitancy to start a conversation or join an ongoing conversation). Although the chat and forum were only accessible to participants, who could remain anonymous, and in a closed environment, worries about their privacy and safety (e.g. because of fear of their partner or ex-partner, or knowing that content shared would become part of scientific research) could have been a barrier as well. The combination of personal needs, preferences, and disclosure motives influences how and why women use these interactive components and what they

gain from using them (Gorissen et al., 2023). To stimulate active use of these features, the chat and forum should be more visible, and 24/7 availability should be emphasized, or alternatively, access limitations should be clearly stated. The presence of a CM should also be clearly communicated. Their presence at specific times throughout the day or week could also encourage use by reluctant participants. Furthermore, the monthly themed chats with a professional or SP could be offered at different times to increase reach. As women may have privacy concerns even while remaining anonymous, clear data management information is essential. Users should be advised on how to browse safely (e.g. not sharing identifiable personal details) and how their privacy and data safety are ensured (Andalibi, Haimson, de Choudhury, & Forte, 2016; Matthews et al., 2017; Sikweyiya & Jewkes, 2012; Sikweyiya & Jewkes, 2013).

According to Rempel and colleagues (2019), eHealth interventions for IPVA survivors mainly focus on safety planning and leaving the abusive partner, whereas there is a lack of support for women who have already left the abusive partner. Our intervention was developed primarily for women who recently experienced IPVA, and 52,5% (104/198) of the participants reported an incident within the week of registering for SAFE and in our RCT (van Gelder et al., 2023). Thus, in addition to reaching our defined target group, we also included women in other stages of the process, for example, moving on after ending an abusive relationship. In line with this, some participants reported a need for more information and advice about the period after leaving an abuser. This supports a broader approach for interventions, for example, by adding specific information tailored to the post-relational stage (Hing et al., 2021; Rempel, Donelle, Hall, & Rodger, 2019). To immediately direct users toward the help they need, their current relationship status might be used as a screening question upon access.

Taken together, eHealth interventions can offer diversified help to survivors of IPVA in different phases. While web-based means and interventions could never and should never replace face-to-face care, they stand out because of their unique characteristics that can be a valuable addition to regular help, such as anonymity, low threshold, flexibility, and client autonomy. They can be a stepping stone to care, a bridge during a waiting-list period, an additional form of support simultaneously or alternately to face-to-face care, and a form of aftercare. Web-based help has the ability to reach a larger group of survivors and can be used to meet certain needs, for example, contact with fellow survivors, the option to reread information or further delve into certain topics, and autonomy in the professional help trajectory and emotional and psychological processing (Al-Alosi, 2020; Eden et al., 2015; Ford-Gilboe et al., 2020; Glass et al., 2022; Gloor & Meier, 2020; Hegarty et al., 2019; Lindsay et al., 2013; Tarzia et al., 2017; van Gelder et al., 2022).

Looking at the results from this qualitative evaluation, the SAFE eHealth intervention had a positive impact on most of the women IPVA survivors. We did not find significant between-group differences over time for self-efficacy, depression, and anxiety upon quantitative evaluation (van Gelder et al., 2023); however, this qualitative analysis highlights other ways in which the participants benefited from the intervention. Our results highlight the need for multilayered analyses applying a mixed methodology to assess the intervention's effectiveness and support in context (Goodman, Epstein, & Sullivan, 2017).

Strengths and limitations

A strength of this study is the various qualitative data and methods used to evaluate the SAFE intervention, complementing the quantitative evaluation (van Gelder et al., 2023). Furthermore, this qualitative evaluation included women who experienced various types of IPVA. This study population is also quite representative of the general Dutch population in terms of diversity in sexual orientation. A total of 80% (8/10; interview group) to 91% (59/65; survey group) of our sample reported being heterosexual, compared with approximately 95% in the general Dutch population (Boss & Felten, 2021). This is also the case for cultural background: 88% (57/65; survey group) to 90% (9/10; interview group) of our sample was born in the Netherlands, and 91% (59/65; survey group) to 100% (10/10; interview group) identified (partially) as Dutch. In the Netherlands, 93,2% of the general population has the Dutch nationality (Centraal Bureau voor de Statistiek, 2022).

Some limitations should also be considered when attempting to generalize our findings. First, we had relatively small sample sizes for the survey (n=65) and interview (n=10) data; thus, the outcomes may not reflect the experiences and views of the entire study sample (N=198). Furthermore, for the interviews, we did contact all women from the intervention study arm who agreed to being approached for follow-up research (n=82) but only 12% (10/82) consented to participate in the interview study. Owing to the small sample size, we report a lack of diversity in terms of educational level. We did not include participants from the control study arm in the interviews as they received a less extensive version of the intervention, and we wanted to limit their participation in this study. We deemed this to be a more ethical balance between what we provided for this group and the burden of participating in a scientific study. However, they did have the opportunity to express their opinions in the open questions of the surveys. Furthermore, we did not include these participants as they did not obtain access to the extended intervention and would have probably mostly requested more interactive elements, as identified in our preparatory interviews, which was confirmed by this group's responses to the open questions in the surveys (van Gelder et al., 2022).

Second, the intervention was solely available in Dutch at the time of the study. Therefore, we did not reach women who did not comprehend (sufficient) Dutch but who may be in more susceptible positions regarding the risk of experiencing IPVA (Prosman, Jansen, Lo Fo Wong, & Lagro-Janssen, 2011). Currently, SAFE is partially translated into Arabic and English, and we have conducted a study among Arabic-speaking women with a migrant background in the Netherlands (Elbelassy, van Gelder, Ligthart, & Oertelt-Prigione, 2022), which further confirmed the need for cultural sensitivity and availability in multiple languages (El Morr & Layal, 2020; Sabri et al., 2021; van Gelder et al., 2021).

Finally, as many but not all women in the Netherlands are sufficiently (digitally) literate, this intervention might not have been accessible to all women who experience IPVA even if they do proficiently comprehend Dutch (van Gelder et al., 2022).

Implications

This qualitative evaluation of the SAFE eHealth intervention provides more elaborate and in-depth data on the users' experiences and views, complementing our quantitative evaluation (van Gelder et al., 2023). We showed that a considerable proportion of the participants who took part in the SAFE study used this intervention and evaluated it in positive terms. Although the views of participants who did not fill out follow-up surveys are unknown, the study shows that there is a demand for the intervention and it can meet certain needs of IPVA survivors. This qualitative study provides important insights for the ongoing development of web-based interventions for IPVA survivors. The assessment of these eHealth interventions should not only focus on outcomes from an RCT and on quantitative measures, but it should also include complementary qualitative data on the users' experiences and views (Goodman et al., 2017). Indeed, this study enriches the quantitative evaluation of the SAFE intervention (van Gelder et al., 2023) and is important in creating a more nuanced, better-informed, real-world picture of its effects and meaning for the women who used it. Furthermore, it provides detailed insight into potential improvements for further development of the SAFE intervention.

Web-based interventions for IPVA survivors can easily be found on the web and implemented broadly without consuming extensive resources (van Gelder et al., 2023). This study shows that women in different IPVA situations and stages could independently use this intervention also before, during, or after receiving different types of professional help. Web-based support cannot replace regular (face-to-face) care and support, but it has its own advantages, such as anonymity and flexibility; it can enable women to find survivors' stories and share their own; and it can guide

them to regular care and complement it. Both women and professionals seem to be interested in the possibilities of eHealth and combining it with regular care: blended care (Gloor & Meier, 2020; Tarzia et al., 2018; van Gelder et al., 2021; Verhoeks, Teunissen, van der Stelt-Steenbergen, & Lagro-Janssen, 2019). This potential can only be demonstrated by a more elaborate and varied assessment of these interventions. Future studies should not only focus on optimizing eHealth interventions, including options for fellow survivor contact, but they should also investigate how web-based tools and face-to-face professional help can complement each other and improve support for IPVA survivors.

Tables and figures

Table 1. Demographics of the survey group at baseline (month 0; N=65[a]).

Demographics	Values
Study arm, n (%)	
Control	37 (57)
Intervention	28 (43)
Age (years), mean (SD)	38 (8.3)
18-30, n (%)	15 (23)
31-50, n (%)	50 (77)
Sexual orientation, n (%)	
Heterosexual	59 (91)
Lesbian	2 (3)
Bisexual	2 (3)
Rather not say	2 (3)
Country of birth, n (%)	
The Netherlands	57 (88)
Belgium	3 (5)
Italy	1 (2)
Luxembourg	1 (2)
Russia	1 (2)
Suriname	1 (2)
United States	1 (2)
Cultural identification[b], n (%)	
Dutch	59 (91)
Belgian	3 (5)
German	1 (2)
Indonesian	2 (3)
Moroccan	1 (2)
Suriname	1 (2)
Turkish	1 (2)
Other[c]	6 (9)
Religious identification, n (%)	
None or atheism	42 (65)
Christianity	9 (14)
Islam	4 (6)
Other[d]	10 (15)

Table 1. Continued

Demographics	Values
Educational level, n (%)	
Primary school	1 (2)
Secondary school	6 (9)
Vocational education	20 (31)
Higher vocational education	19 (29)
University	16 (25)
Postdoctoral	3 (5)
Paid employment, n (%)	
Yes	41 (63)
No	24 (37)
Children, n (%)	
Yes	45 (69)
No	20 (31)
Living situation, n (%)	
Alone	11 (17)
With current partner or ex-partner	11 (17)
With children	20 (31)
With current partner or ex-partner and children	20 (31)
With parents	3 (5)
Type of IPVA[e,f], n (%)	
Psychological	63 (97)
Physical	46 (71)
Sexual	24 (37)
Economic	29 (45)

[a]The survey group consisted of participants who filled out the General Characteristics Questionnaire open question on their experience with SAFE or the Web Evaluation Questionnaire at least once.
[b]Participants could identify with multiple cultural backgrounds.
[c]Other: American, French, Italian, Luxembourgish, Russian, and Western European.
[d]Other: agnostic, partially Hindu, orthodox and Jewish, and spiritual.
[e]Participants could tick multiple boxes.
[f]IPVA: intimate partner violence and abuse.

Table 2. Demographics of the interview group at baseline (month 0; n=10).

Participant number	Age (years)	Sexual orientation	Country of birth	Cultural identification	Religious identification
226	43	Heterosexual	The Netherlands	Dutch + Indonesian	None or atheism
290	46	Heterosexual	The Netherlands	Dutch + French	None or atheism
322	38	Heterosexual	United States	Dutch + United States	None or atheism
422	26	Bisexual	The Netherlands	Dutch	None or atheism
431[a]	48	Heterosexual	The Netherlands	Dutch	None or atheism
457	49	Heterosexual	The Netherlands	Dutch	None or atheism
501	39	Heterosexual	The Netherlands	Dutch	Christianity
545	47	Bisexual	The Netherlands	Dutch	None or atheism
629	50	Heterosexual	The Netherlands	Dutch	None or atheism
647	50	Heterosexual	The Netherlands	Dutch	Christianity + Hinduism

[a]This participant dropped out during the randomized controlled trial but did participate in the process evaluation interviews.

	Educational level	Employment (paid)	Children	Living situation	Type of violence and abuse
	Higher vocational education	Yes	Yes	With children	Physical, psychological, and economic
	Higher vocational education	No	Yes	With children	Psychological and economic
	Vocational education	Yes	Yes	With children	Physical, psychological, and economic
	Higher vocational education	No	No	Alone	Physical, psychological, sexual, and economic
	Higher vocational education	Yes	No	Alone	Physical and psychological
	Vocational education	No	Yes	With children	Psychological
	Higher vocational education	No	Yes	With children	Physical, psychological, sexual, and economic
	University	Yes	Yes	With children	Psychological
	Vocational education	Yes	Yes	Alone	Physical and psychological
	University	No	Yes	With partner and children	Physical, psychological, and sexual

Textbox 1. SAFE intervention: modules and functionalities during the randomized controlled trial. Text in italics indicates availability to the control and intervention arms; text not in italics indicates availability only to the intervention arm.

Module: My situation

- *Information on intimate partner violence and abuse (IPVA)*
- *Information on healthy and unhealthy relationships*
- *Information on the impact of IPVA on children*

Module: Help

- *Information on various help options*
- *Information on safety (e.g., in preparing to leave an abusive partner)*
- *Help database with help options, including filters for type of help and region*

Module: My health

- Information on physical health (issues)
- Information on mental health (issues)
- Information on coping strategies and stress reduction

Module: My environment

- Information on social support
- Information on disclosing IPVA
- Information on contact options

Contact

- *Links to contact options with fellow survivors*
- *Option to contact the community managers*
- Chat, forum, and diary

About SAFE

- *Information on the SAFE research project (including patient information letter and stakeholders who provided input)*
- *Information on safety measures*
- *Information on the community managers*

Additional functionalities (throughout the intervention when applicable)

- Exercises for creating awareness and to stimulate reflection on their situation and help-seeking process
- Short videos by female survivors of IPVA and by professionals
- Stories and quotes from female survivors of IPVA
- *Tips for books, films, and activities*

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Supplementary materials

Multimedia appendix 1. Questions from the interview guide.
The original interview guide is in Dutch and the questions were translated into English for the purpose of sharing this study with a larger audience.

General

1. Can you tell something about yourself? (Activities in daily life such as work or study; household / family composition; your own youth etc.)
2. Would you want to tell something about the nature of the violence or abuse that you have experienced?

Findability and awareness

3. How did you find the SAFE website?

Usage

4. Do you feel that, regarding your personal situation, you had sufficient possibilities to access the website? (For example, regarding mental load, stress, danger.)
5. Do / did you find it easy to use the website?
6. How did you create a safe environment to use the website? And are you confident that SAFE is safe to use?

Content

7. What do you think of the content of SAFE? So, about the information you can find there etc.
8. Which components of the website were good or valuable according to you? And why?
9. Which components of the website were not good or were missing according to you? And why?

Tips / points for improvement

10. Do you have tips for us to further improve SAFE?

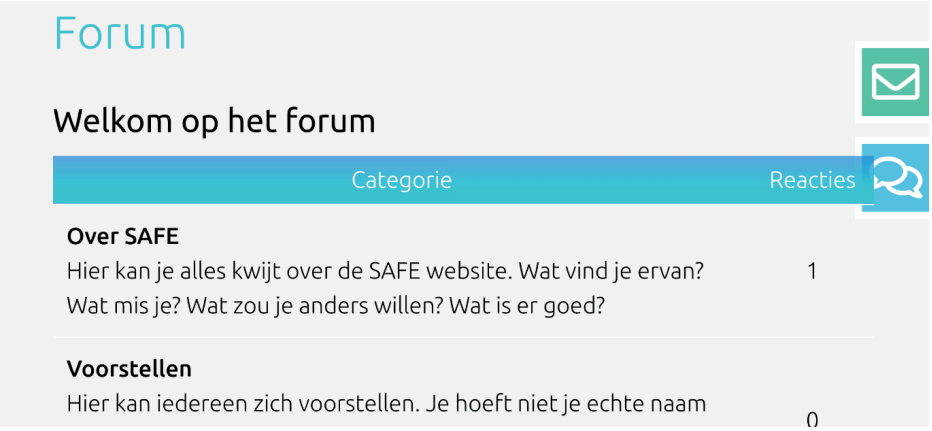
Impact

11. What did you expect from SAFE when you first started using it?
12. Do you feel like SAFE has helped or supported you in some way? And how, and why?
13. Do you feel like SAFE has had an impact on your mental health? For example, in feeling comfortable in your own skin or having less stress now you have used / are using the website?
14. Do you feel like SAFE has helped you in decision making? For example, in reaching out to professional help?
15. How do you think SAFE could help other women? In what setting could it offer support, and in what setting would it not be suitable?

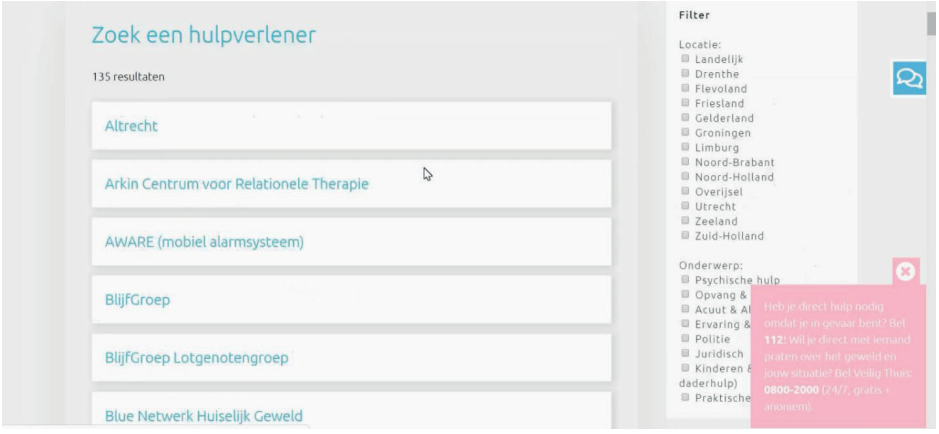
End

16. Do you have other remarks or ideas that you would like to discuss with us, regarding SAFE or the study?
17. Do you have any questions about the interview or about SAFE?

Multimedia appendix 2. Images from the most preferred components of the SAFE intervention. The intervention study arm used the chat and forum the most, this component was only available to the intervention study arm. This is an image that shows part of the forum. The blue text balloons on the right can be clicked on to access the chat. The green envelope can be clicked on to send a personal message to the Community Managers.



The control study arm used the database with help options the most, this component was available to both study arms. This is an image that shows part of the database.



Multimedia appendix 3. Chat and forum data.

Chat	Forum
Total amount of visits: **308**	Total amount of visits: **601**
Amount of unique visitors: **36**	Amount of unique visitors: **27**
Total amount of themed chats: **24 (monthly)**	Total amount of topics: **8**
Total amount of themes: **6**[a]	Total amount of threads: **47**
Total amount of themed chats with active participants: **11**	Amount of active participants: **2**
Amount of unique active participants within themed chats: **20**	Most read topic: **survivors' stories**
Most popular themed chat: **psychological violence and abuse**	
Amount of unique active participants outside themed chats: **10**	

[a]Themes: Emotions and physical complaints; Psychological violence and abuse; Help seeking; IPVA and the nuclear family / the children; Your life after IPVA; Support from police and justice.

Multimedia appendix 4. Feedback on SAFE intervention from questionnaires.

	Intervention arm - Good points
GCQ - Experience with SAFE (unique N=22)	- Nice to be heard. - Good to be included in research. - The website provides insight on IVPA and can support women in making the decision to leave a violent relationship. - A lot of information and help options. - The e-mails (reminders) help to reflect on how it's going. - The questionnaires. - Good website and initiative, low threshold, it feels really good and safe. - It's important that there's a place with expertise on IPVA that offers support. It's also confronting. - It helps me realize that I'm not the only one, that IPVA has various forms, and what the facts of my situation are. It helps me to prevent that I'm downplaying what's going on. - Acknowledgement. - (Automated) e-mails sent under the name 'Menstrual calendar'. - If I'd had SAFE when I was still in that violent relationship it would've helped me tremendously. - I only just realized how good it feels to talk about this because of using this.
WEQ - Points for improvement[a] (unique N=9)	N/A

	Intervention arm - Points for improvement	Intervention arm - Other
	- Login problems. - More interaction / chats amongst survivors. - When you've decided to leave the violent relationship you do need real help from real people. *(The researchers interpret this as a call for connecting online help to offline help.)* - Some more feedback would be nice. - More clarity (overview). - For the themed chats in the evening: take bed times of children into account so it's easier for mothers to join the chat. - It didn't help / support me yet. - Phone numbers from organizations need to be updated. - More information on help regarding the situation after a (complex) divorce. - More direct contact with professionals outside office hours. - I'm missing acknowledgement for my situation because it's unusual and very complex. - I would like to share my story and that others can comment on it without direct contact. - More stories from survivors. - More information on the period after leaving the violent relationship and dealing with PTSD, trauma, and anxiety. - Make it more suitable for various situations and relationship dynamics.	- I didn't have time to look at it yet. - I didn't need this type of help anymore. - I don't use it much anymore.
	- Nothing: 55,6% (N=5) - Less youthful: 11,1% (N=1) - Less old: 0% (N=0) - Too much color: 0% (N=0) - More colors and photos: 0% (N=0) - Different logo: 0% (N=0) - Different font: 0% (N=0) - Menu: 0% (N=0) - Other, namely: 33,3% (N=3)[b]	N/A

Multimedia appendix 4. Continued

WEQ – Explanation for grade given (unique N=15)	- Clear (overview), innovative, helpful. - Handles privacy and safety well. - Good information (about what steps you can take) and sufficient amount of information. - It's nicely set up and it'll probably expand. - Does what it says it does. - Good initiative to help women. - Really good website. - User friendly.
WEQ – Explanation for feeling safe (unique N=15)	- Privacy is ensured. - Website has a friendly appearance. - Escape button and immediately going to Google. - I can click away when I need to. - It's made for a group that finds safety very important. - Pop-up with reminder to call 112 when in immediate danger. - (Automated) e-mails sent under the name 'Menstrual calendar'. - It feels trustful. - It's shielded. - Anonymity. - There are many safety measures.
WEQ – Opinion about intervention (unique N=17)	- Clear (overview), useful, nice, super, very good, handy, well organized. - Good to have someone that help to think with me and check if I'm okay. - Interesting but also confronting. - Good something like this exists. / Good initiative. - A place where I'm aware that I'm not the only one and that there is help. Also, that it's not my fault. - The information was useful to asses and reflect on my situation. - Good guidance, good help. - A (almost) recent overview of help options. - Tailored to safety needs with regard to an abusive partner looking through your phone or looking over your shoulder. I was afraid of taking action but SAFE really helped me.

	- Missing information on why partners can be abusive. - Can be more clear (overview). - There are always some points for improvement. - More videoclips and stories from survivors. - Focuses on extreme cases, more preventative information could be added. - I don't understand the website. - More (international) scientific information could be added.	- Haven't had time yet to discover everything. / I'm not familiar with the website yet, I need more time to dive into it.
	- It's safe because it's not interactive, no one talks to me. *(Interpreted by researchers as general point for improvement: more interaction.)* - I'm not sure if my personal data and the things I do on the website are very well secured. - I'm still afraid other people and official authorities can read and report it.	- I'm not living together with my partner anymore. - I didn't know about this so I think my partner doesn't either. / My partner doesn't know about this website.
	- Missing recent articles and publications on this subject. - I already knew half of the information that was provided. - It's still unclear to me but maybe this has to do with my situation and that I needed to create safety for my family first. - I expected some more scientific input but maybe that will happen later. - I'm suspicious of professionals and authorities so I'm afraid of doing things, I feel lonely in dealing with my problems.	- I didn't spend enough time on it yet. - I'm not sure how I feel about it yet, I need more time to go through it.

Multimedia appendix 4. Continued

WEQ – Missing in intervention (unique N=16)	- Nothing, not applicable.

	Control arm - Good points
GCQ - Experience with SAFE (unique N=23)	- It's safe and accessible. - Escape button. / Easy to leave the website. - Pop-up with reminder to call 112 when in immediate danger. - Useful and supportive messages on the SAFE Facebook page. - Good that SAFE remains contact via e-mails (reminders) and surveys. - A lot of information and survivor stories. - Anonymity. - The questionnaires. - Good that it exists. / It gives me a good feeling to know this exists. / Fantastic initiative. - Support for women in all kinds of IPVA situations.

- Information on how to deal with professionals who work from the standpoint that there's equality between the partners and in that way provide wrong or bad help or even make it dangerous. - Information on motivations for a partner to become coercive, abusive or violent, why does this happen? - More research and surveys to urge politicians and the government to take action in tackling violence against women. - A quick link. *(Unknown for the researchers what this participant means exactly.)* - Addresses for shelters and safe houses. - Scientific evidence based knowledge, not only for SAFE but in general. Too little is being done and more awareness is needed. - More information on plans to educate police officers and other professionals. - Information on what happens with the children after a divorce. - More stories from survivors. - Chat with women who deal with the same problems.	- I don't know. - Myself. *(Unknown for the researchers what this participant means exactly.)*

Control arm - Points for improvement	**Control arm - Other**
- More articles and videoclips. - Chat option. - Education on mechanisms in domestic violence. - More anonymous help options. - Login problems. / Problems with creating a new password. - More information on IPVA, felt like it was only for research. - I expected more from it, too little (new) information. - Everything, it doesn't work and I want to delete my account. - (Automated) e-mails sent under the name 'Menstrual calendar' because I don't menstruate so how would I explain it to my ex if he saw it?	- I registered but haven't used it yet. - I haven't used SAFE enough. - I only filled out the questionnaires but didn't use the intervention. - I forgot about it.

Multimedia appendix 4. Continued

	- SAFE is a good to checkpoint to see how it's going. - Research on psychological violence, it's supportive that the scientific community takes this seriously. - Clear and comprehensible.
WEQ - Points for improvement[a] (unique N=19)	N/A
WEQ – Explanation for grade given (unique N= N/A)	N/A
WEQ – Explanation for feeling safe (unique N= N/A)	N/A
WEQ – Opinion about intervention (unique N=28)	- Useful information, help options and links. - Sufficient amount of information. - Clear (overview). - Supportive. - Nice, fine, handy, very good initiative, good that this website exists. - Pleasant in usage and in contact.

	- In some cases it may be appropriate to discuss signs with professionals. - Via an IP-tracker even an anonymous reporter can be traced. - It didn't help me yet. - Unclear (overview). / I don't know where to begin. - More tips on how to deal with IPVA. - More support options / feeling supported. - Contact with survivors more prominent / available. - SAFE feels more like an obligation than something supportive at the moment.	
	- Nothing: 42,1% (N=8) - Less youthful: 0% (N=0) - Less old: 0% (N=0) - Too much color: 10,5% (N=2) - More colors and photos: 10,5% (N=2) - Different logo: 0% (N=0) - Different font: 0% (N=0) - Menu: 21,1% (N=4) - Other, namely: 21,1% (N=4)[b]	N/A
	N/A	N/A
	N/A	N/A
	- Lack of new and regional information. - Didn't suit to the type of help I need (legal, housing and shelter, divorce with children involved). - Lack of clarity (overview), trouble finding things. - I miss direct steps I can take, I hoped to immediately have contact with someone and receive help but it's just a collection of all kinds of information. - I notice that when I'm really in need, I don't go to the website. - Little to offer, I don't understand it so I don't use it.	- I don't use it much anymore. / I use it less now. - I think it's good but now I also started with professional help so I need it less. - I often forget it exists.

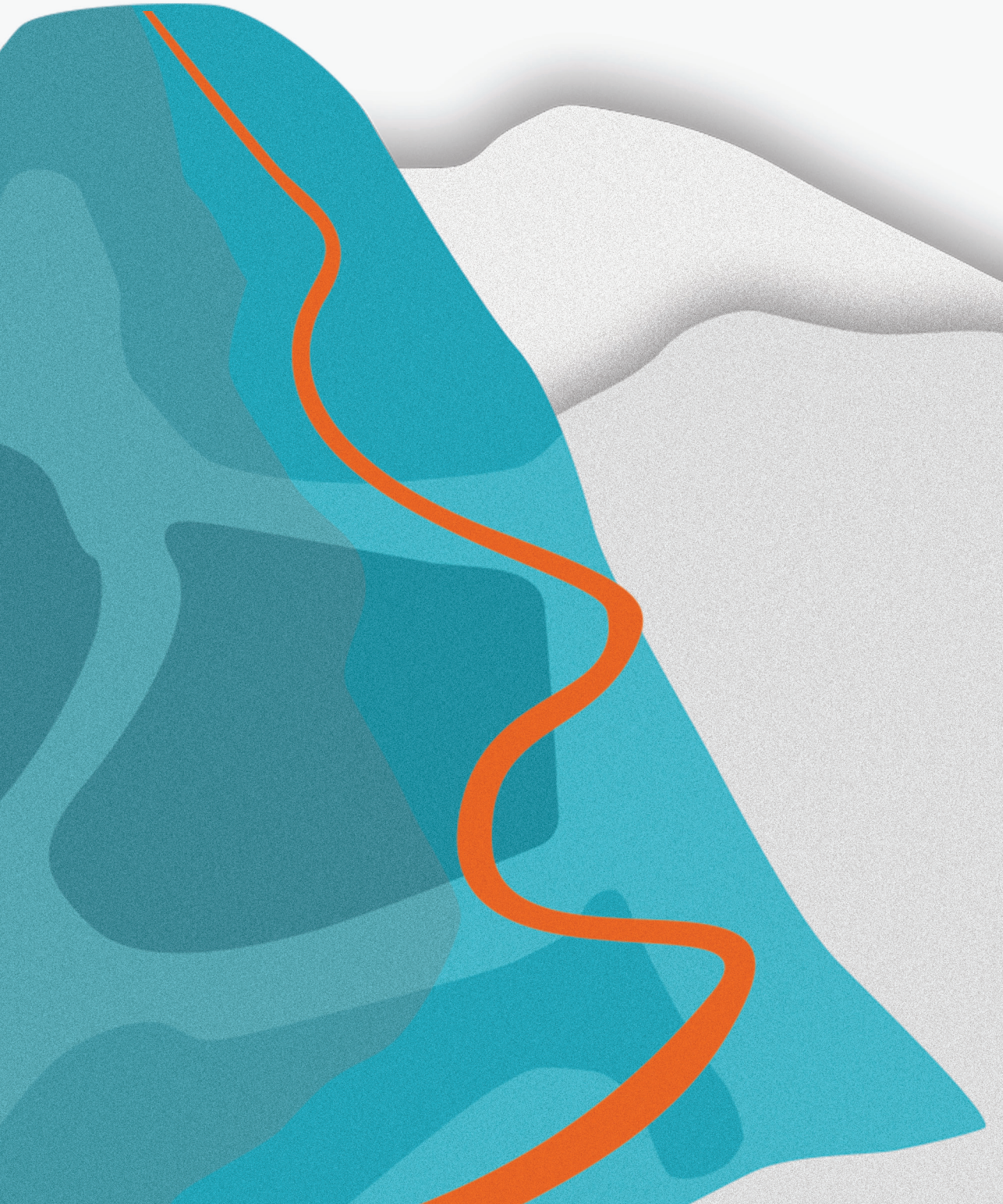
Multimedia appendix 4. Continued

	- Provides clear help options.
WEQ – Missing in intervention (unique N= N/A)	N/A

[a]This question was only asked at the WEQ for one month and participants could check multiple answers, hence the total percentage can be above 100%. |

- I don't know, I've only filled out a questionnaire and that's it. / There are only questionnaires. - Links (to events) could be updated more. - A bit disappointing, it doesn't help much. I did found a course, that's it. - Not really helpful. - Not easy to use, I can't change my password.	
N/A	N/A

[b]Other, namely: intervention group = more mobile phone friendly, more stories from survivors, variation in short videos and stories from survivors; control group = information presented more clearly and easier to find, external links should open in a new tab, better content, a forum for fellow survivors.



CHAPTER 6

Economic abuse amongst Dutch women (formerly) victimized by intimate partner violence and abuse: A mixed methods approach.

This chapter is based on the following article: van Gelder, N., Ligthart, S., Astro, L., & Oertelt-Prigione, S. (2021). Economic abuse amongst Dutch women (formerly) victimised by intimate partner violence and abuse: A mixed methods approach. Tijdschrift voor Genderstudies, 24, 89-107. doi:10.5117/TVGN2021.2.002.VANG

Abstract

Background: Economic abuse (EA) is a type of intimate partner violence and abuse (IPVA) that is understudied and not always recognized as a distinct form of IPVA. EA receives relatively little attention but occurs frequently and prevents people from leaving a violent relationship. Therefore, we investigate EA amongst our study populations of women who experience(d) IPVA, in order to contribute to this new field of research.

Methods: A mixed methods approach involving quantitative (N=210) and qualitative (N=12) data is used to investigate the prevalence and appearances of EA and links with other forms of IPVA, educational level, income level, etc.

Results: 42.9% reported EA and the outcomes showed significant relationships between EA, psychological abuse, income level, and contribution to household income. Participants discussed various forms of EA and its impact on their economic independence and well-being.

Discussion: EA is probably even more prevalent than we found in this study and more research is needed to gain insight on the prevalence, forms, and impact of EA as a silent but distinct form of IPVA. EA must be taken into account when working with IPVA survivors in order to support them in building their (economic) independence.

Background

Economic abuse (EA) is a form of intimate partner violence and abuse (IPVA) that is frequently unrecognized and is often classified as a subtype of psychological abuse (Postmus, Hoge, Breckenridge, Sharp-Jeffs, & Chung, 2020). Recently, however, scientific research has focused more on EA as a distinct form of IPVA, meaning it is a unique type of violence instead of only a type of psychological violence. It leads to specific and unique consequences such as not being able to obtain or maintain a job or educational goals, poverty, homelessness, building up debts, economic dependency, isolation, and mental health issues (Eriksson & Ulmestig, 2017; Postmus et al., 2020; Stylianou, 2018). The knowledge base is evolving and a consensus definition of EA is still lacking, although assessing certain types of EA is possible with the (revised) Scale of Economic Abuse (SEA2) (Adams, Greeson, Littwin, & Javorka, 2020; Adams, Sullivan, Bybee, & Greeson, 2008). In principle, EA entails several restrictions in the private and public sphere. Common forms include not being allowed to work outside the house, being limited in making decisions regarding household finances, and having a restricted or absent access to finances, means, and necessities. Furthermore, the abuser can deliberately cause financial trouble, withhold or hide shared money, track the survivor's spending habits, and negatively influence the survivor's work or educational situation (FRA, 2014; Postmus et al., 2020; Stylianou, 2018).

The different working definitions complicate a systematic mapping of the prevalence of EA. However, in Europe, the European Union Agency for Fundamental Rights (FRA) survey (FRA, 2014) demonstrated that 5% of women experience EA in their current relationship and 13% experienced this in previous relationships. Given that approximately 25% of women in Europe, including the Netherlands, experience any type of IPVA in their lifetime (FRA, 2014; WHO, 2013, 2021), EA appears as a common form, often in combination with other types of IPVA. In a Dutch prevalence study, 4% of women 18 years and older reported experiences with physical and/or sexual IPVA in the last five years (Ten Boom & Wittebrood, 2019). The latest Dutch national surveys on domestic violence and abuse (DVA) and child abuse did not take EA into account (Akkermans et al., 2020; Ten Boom & Wittebrood, 2019). In the Netherlands, EA is not always recognized as a distinct form of IPVA, a clear definition is missing (Huiselijkgeweld.nl, 2020a, 2020b), and Dutch governmental websites on DVA do not consistently acknowledge its existence (Rijksoverheid, 2020).

With the present work, we will investigate the prevalence and appearance of EA, and its links to other types of IPVA and characteristics of female IPVA survivors, using data from the Dutch SAFE eHealth intervention. This online intervention is developed

for women who experience(d) IPVA and is currently part of a randomized controlled trial (RCT). SAFE is designed as a low threshold online intervention for providing information and options for help and support and encouraging women to seek help (van Gelder et al., unpublished results; van Gelder et al., 2020).

Methods

Study design

Using a mixed methods approach, we combined quantitative and qualitative data to investigate EA. To study the prevalence of EA and its links with other forms of IPVA and IPVA survivor characteristics, we conducted a cross-sectional study amongst participants who subscribed to an online help intervention targeted at women who experience IPVA (van Gelder et al., 2020). To assess EA more in depth and gain insights into its appearances, we used qualitative data from an interview study on IPVA and needs, wishes, and obstacles in (online) help seeking, conducted amongst female IPVA survivors (van Gelder et al., unpublished results).

The data for the quantitative and qualitative analysis stem from the SAFE study. This study focuses on developing and evaluating a Dutch online intervention for women who experience IPVA. Quantitative data was collected from surveys that were combined with interviews (van Gelder et al., unpublished results) and from surveys in a randomized controlled trial (RCT) (van Gelder et al., 2020). Qualitative data was collected from the aforementioned interview study (van Gelder et al., unpublished results). All data were collected in the period 2018–2020. The study complies with the Declaration of Helsinki and has received approval by the local medical ethics committee: Commissie Mensgebonden Onderzoek regio Arnhem–Nijmegen.

Recruitment, data acquisition, and measures

Participants for the RCT, who experienced IPVA currently or no longer than one year ago, were mostly recruited via social media, (online) articles for newspapers and magazines, and via (mental) health and DVA / IPVA organizations (van Gelder et al., 2020). Participants for the interview study were recruited through DVA and IPVA organizations (van Gelder et al., unpublished results).

For the quantitative part, all participants received an information letter and provided consent, after which they filled out a General Characteristics Questionnaire (GCQ) containing questions on sex, gender, age, income, educational level, types of IPVA, etc. With regard to IPVA, we asked 'What type of IPVA have you experienced?' with four

options (physical, sexual, psychological, economical), including a few examples, they could choose from. EA was presented with the examples 'withholding wages' and 'not being allowed to work'. Since the original study has no explicit focus on EA, we did not use the SEA2 but the two examples in our study correspond with elements in the SEA2 (Adams et al., 2020). In total, 210 women (interview study and RCT participants combined) filled out the GCQ.

For the qualitative part, all participants received an information letter and provided consent before semi-structured interviews, with a duration between 45 and 60 minutes, were conducted. The interviewer (NvG) is a Dutch woman, aged 28 at the time of the interviews, who has a background in pedagogical sciences (MSc.) and was trained in psychological conversation skills. Personal experiences of IPVA were discussed during these interviews. In total, 12 women were interviewed.

Analysis

Quantitative data was analyzed with SPSS version 25 (IBM Corp., Released 2017). Demographics and responses about type and duration of IPVA were analyzed descriptively with frequencies, means, crosstabs, and Chi-squared tests. To analyze effects of demographics or other types of IPVA, we used multiple linear regression analysis. Variables were selected based on findings in the literature and tested in models with forward selections. With this data, we investigated prevalence, co-occurrence with other IPVA types, and correlations between EA, age, educational level, income, contribution to household income, and living situation. The significance level used is 5% ($p<.05$).

Qualitative data was coded by two researchers using open thematic coding in the qualitative data analysis program Atlas.ti, version 6.2 (Ayres, 2014; Friese, 2011). The interview data was analyzed following the principles of qualitative content analysis. For the purposes of this study, we only focused on the contents that contained quotes on EA. In particular, we thoroughly read all texts looking for signs of EA and, additionally, we searched the texts for 'economical', 'econo*', 'financial', 'finan*', 'money', 'study', 'stud*', 'education', 'edu*', 'job', 'employment', and 'employ*' (originally in Dutch, translated in English for this article), and gathered quotes from survivors to assess on a content level. Quotes were anonymized and used to illustrate types of EA and their impact. Furthermore, survey data from the GCQ was used to investigate whether women who mentioned EA in their interview also checked the box for EA in their survey and vice versa.

Results

Demographics of the study populations

Two study populations are involved in this study: the quantitative group and the qualitative group. The quantitative group consists of 198 women (mean age = 35) from an RCT study who all experience(d) IPVA currently or no longer than one year ago (Table 2), and of 12 women (mean age = 43) from an interview study who had experienced IPVA in the past (Table 1) and filled out a questionnaire as well. Thus, all participants in this study experience(d) IPVA. The qualitative group consisted of the same 12 women from the aforementioned interview study. Tables 1 and 2 show demographic data from these groups. With regard to cultural background, all 12 interview study participants were born in the Netherlands and identify solely as Dutch. Almost all of the 198 RCT participants were born in the Netherlands and identify as Dutch as well. About 14% was born outside the Netherlands and around 20% identifies (partially) with another culture. Six participants currently live in Belgium and the other 204 participants live in the Netherlands. For sexual orientation, all 12 interview study participants identified as heterosexual with the exception of one participant who answered 'rather not say'. For the 198 RCT participants, 90.4% identified as heterosexual, 2.5% as lesbian, 6.1% as bisexual, and 1% answered 'rather not say'. The latter group is more representative of the general population in terms of diversity in sexual orientation (Felten & Boss, 2019).

EA is more common than sexual violence

An overview of socioeconomic status (SES) can be found in Table 3. Participants in this group display a higher education level (50.5%) compared to the average of highly educated women in the Netherlands (34%) (Centraal Bureau voor de Statistiek, 2019). 58.1% of the women in this study has a paid job, at least part-time, and 8.1% is studying without earning any income. This is a lower average of employment than women in the general Dutch population: 64.4% (Centraal Bureau voor de Statistiek, 2020a). However, the Centraal Bureau voor de Statistiek (CBS) presents numbers for women aged between 15 and 75, while the participants in this study are mainly women between 18 and 50 years old. With regard to income, the majority (44.8%) earns €26.500 or less annually and contributes approximately 100% to the household income (53.3%).

For current relationship status and living situation (Figure 1), most participants report to be in a relationship with a male partner (55.2%) and they live with their children (29%) or with their partner and children (24.8%). Compared to women aged between 20 and 55 years old in the general population, women in this study are currently divorced more often: respectively 9% and 24.3% (Centraal Bureau voor de Statistiek, 2020b).

IPVA and economic abuse

Most participants report that the perpetrator of (one or more types of) IPVA is their current partner (45.2%), closely followed by the ex-partner (41.4%). Most women (57.1%) lived in a home without their (ex-)partner. The last violent incident had mostly taken place within the last two weeks: 59.5%. With regard to the types of IPVA, psychological abuse was most common amongst the participants (95.7%), followed by physical violence (76.2%), EA (42.9%), and sexual violence (34.3%). No correlation was found between physical violence and EA (p=.86). There was a correlation for sexual violence and EA, but it did not reach significance (p=.07). All women who had experienced EA also reported that they had experienced psychological abuse, showing a significant correlation between these types of abuse (p=.00). Income level (p=.00) and contribution to the household income (p=.01) both show a significant negative relationship with EA, linking a lower income level and lower contribution to the presence of EA (see Table 4). However, contribution acts as a suppressor variable, which shows no significant independent correlation with EA (p=.11) but does strengthen the effect of the other independent variables on EA. Together, they explain 9.5% of the variance (model 5), F (3,177) = 7,313, p=.00, adjusted R^2=.095.

Appearances of EA

Four participants out of 12 participants in total checked the box for EA in the survey. Out of these same 12 individuals, seven mentioned personal experiences of EA during the interview (i). Three participants mentioned EA in both the survey and the interview (s + i). They mentioned various aspects of EA and how IPVA affected their SES in their interviews. They discussed a lack of access to own funds, complications of joint funds, violence originating from the economic imbalance, and consequences on their work perspectives.

Two women mentioned their (ex-)partner had withheld joint money and possessions from them, persuaded them to give up their own possessions, or took control of the financial administration. This increased their economic dependence without them immediately realizing it.

> *201 (s + i): At the time, he convinced me to sell my house, which I lost money on, and move in with him. He said I should declutter and get rid of most of my possessions. He set up a small company so I could be self-employed and he would handle the finances. I agreed to this since I didn't have much experience with it myself. After the divorce, he refused to give back some of my personal possessions.*

207 (s + i): At one point, I was thinking so clearly that I asked my neighbor if I could leave my bank cards in a closet at her place; she agreed to it. When he entered the house, you know they take everything away from you to isolate you, he couldn't get to my bank cards because I had hidden them. … Many women have no idea. It's always the man who knows about this and that [finances], you know.

One of the women emphasized that help should also focus on how to deal with shared finances, such as a shared bank account, which can cause trouble when trying to leave the violent relationship. Furthermore, she explained that an abusive partner will try anything to isolate you, for example by sabotaging your employment.

207 (s + i): They will contact your employer, maybe in an aggressive or intimidating way, to say all kinds of bad things about you. That can cause you to lose your job.

Financial problems can be very stressful and it can lead to people staying in the violent situation for a longer amount of time. Three women explained how one's economic situation might lead to violence and how it might prevent someone from (immediately) leaving the abusive relationship.

101 (s + i): I was constantly thinking about how to get out of this. You just really don't know how you can get out of it. It's not like 'well if he beats you, you just leave'. That's not how it works, you have kids, you have debts. You really don't just leave.

202 (i): You hear many people stay because of financial reasons or because they're convinced they can't do it alone. They should know that there's help available, that it only gets better, even if they don't have a house or money. … If you have financial problems or your partner is unemployed, this can create stress, which could lead to violence.

206 (i): That was the straw that broke the camel's back, but of course I'd had that accident so I had nothing. I had no job, well, I received benefits. But I didn't have much possibilities to leave. In the end, I decided to leave anyway.

Economic abuse can have an effect on employment status but so can IPVA without EA necessarily being present. Five women discussed not being able to work anymore or having to change their jobs as a consequence of the IPVA situation.

101 (s + i): I work as a domestic help for a few days a week. I started with this as I couldn't keep my own company due to the divorce and everything that happened. The work became too demanding on a mental level, so I turned to more physically demanding work to still earn some money. I've always find it hard to accept this. It feels like failing that I wasn't able to practice my profession anymore.

203 (i): Due to a postpartum psychosis and the stress of the violent situation, divorce, and struggle to maintain contact with my children, I'm not able to work so I receive benefits. I'm doing some volunteer work and I'm figuring out what I can handle.

205 (i): I do a lot of volunteer work because I'm physically and mentally limited since my ex-partner attempted to kill me. Therefore, it's a bit harder to find a job.

Discussion

This study provides insight on EA amongst Dutch-speaking women who experience(d) IPVA. Our results show that 42.9% of participants reported EA and all of them reported psychological abuse as well, showing a strong link between these types of IPVA. This is congruent with other studies that also found strong links between EA and psychological abuse (Postmus, Plummer, McMahon, Murshid, & Kim, 2012; Stylianou, 2018; Stylianou, Postmus, & McMahon, 2013). Furthermore, income level and contribution to the household income show significant links to EA: women with a lower income and contribution are more likely to experience EA. However, the direction of this link is not clear. Women may have a lower income and contribution because they experience EA, but it could also be the case that they are more easily subjected to EA because they are more economically dependent on a partner due to a lack of own means, hence a lower SES, which makes them more vulnerable. Notably, educational level and age group show no link to EA.

The 2014 FRA survey demonstrated 18% of the general female population in EU countries experienced EA ('preventing the respondent from making decisions on family finances or shopping independently, or forbidding her to work outside the home' – p. 72) by a (ex-)partner (FRA, 2014). The prevalence of EA in our study population is high (42.9%) but does not come close to what Stylianou and colleagues (2013) found in their study amongst 457 women in the USA who were recruited from DV agencies. In total, 93.4% reported EA, often together with psychological and physical violence (Stylianou et al., 2013). Economic abuse research by Postmus and

colleagues found 94.2% of women who experienced IPVA reported EA (Postmus et al., 2012), a study in the UK carried out by Surviving Economic Abuse (SEA) showed that 95% of female IPVA survivors reported EA (Surviving Economic Abuse, 2020b), and Adams and colleagues (2008) even found that 99% of the women in their study had experienced a form of EA within a relationship (Adams et al., 2008). The difference in prevalence numbers could be explained through differences in definition or study design: the studies from Stylianou and colleagues (2013) and SEA (2020a, 2020b) specifically studied EA, while we did not gather data specifically for an EA study as the data used for this study is part of a larger study on IPVA (see Limitations). Also, women in our study were often just starting to look for help for IPVA and may not (yet) recognize EA as such. Thus, EA might be more prevalent amongst female IPVA survivors than was reported in our study, especially since a Dutch study shows 90% of women in shelters are dealing with debts (Bekken, 2018). Besides, in the general Dutch population, only 64% of women is economically independent (Centraal Bureau voor de Statistiek & Sociaal en Cultureel Planbureau, 2020) and 37.6% of women who experience IPVA is dependent on the abusive partner (van Eijkern, Downes, & Veenstra, 2018). Also, women who technically are financially independent may still experience EA in a relationship (Bouma, Berry, & Römkens, 2020).

Women in our qualitative study explain how different types of EA influenced their lives in negative ways – for example, by causing job loss or having to change jobs, stress, and financial and (mental) health problems. Intimate partner violence and abuse can have consequences on a personal economic level without EA being explicitly present and it can continue after separation. They also said that financial problems can make it harder to leave the violent relationship and they express the need for help with finances, housing, etc. These descriptions of appearances and consequences of EA and of how EA and financial problems can be an obstacle in leaving or recovering is in line with findings from other studies (Adams & Beeble, 2019; Bekken, 2018; Eriksson & Ulmestig, 2017; Postmus et al., 2020; Sanders, 2015; Sauber & O'Brien, 2020; Stylianou, 2018; Voth Schrag, Ravi, & Robinson, 2020). Sometimes, employers of EA survivors are exposed to the abuse, as participant 207 said, but it can be hard for them to take action and they sometimes choose to let their employee go, as other women have experienced as well (Bekken, 2018). Students can experience a lack of support as well, which can increase their economic dependence. In Bekken's (2018) study, a woman explained that teachers knew about her stressful situation at home, but, apparently, she received no support and was not able to continue studying, making it hard for her to find a job.

Interestingly, not all women who shared personal EA experiences in the interviews checked the box for EA in the survey. This may be a reflection of how little EA is known and acknowledged in society and amongst IPVA survivors, even though it seems to be of frequent occurrence. This may be linked to traditional views on gender roles, employment, and the management of household money, which can make it easier for especially men with female partners to commit EA and exercise control, and it going unnoticed (Johnson & Ferraro, 2000), or the idea that partners always share the household money equally and therefore EA going unnoticed (Branigan & Grace, 2005). Additionally, economic dependence seems to occur more and is a bigger barrier for leaving a violent relationship amongst women who experience IPVA than amongst male IPVA survivors (Anderson, 2010). Last, IPVA, EA, and financial problems are all taboo subjects, which makes it harder for women to disclose this and seek help (Bekken, 2018).

Limitations

This study population is not entirely representative of the larger female population that experiences IPVA, as this population is less culturally diverse and higher educated than Dutch society on average. Besides this lack of diversity, we have to take into account that this study population mainly consists of (digitally) literate women who know how to use the internet and have access to it. While this is true for the majority of people in the Netherlands, it is important to acknowledge this gap as we now might miss a group that may be even more at risk for EA: women who do not (sufficiently) speak Dutch, who are (digitally) illiterate, and/or who are isolated by an abusive partner (Bekken, 2018). Furthermore, EA was represented in our questionnaire with limited examples (withholding wages and not being allowed to work), which might have led to an underestimation of EA amongst this study population if some women have not reported EA because their experiences differed from the examples in the survey – for example, in the case of educational sabotage (Voth Schrag, Edmond, & Nordberg, 2020) or exploitation (Bekken, 2018) as types of EA.

Implications

This study shows a need for further research in the Netherlands and globally on the definition, prevalence, mechanisms, and consequences of EA in the context of IPVA and as a distinct type of abuse. More awareness amongst professionals, policy makers, and researchers for EA as a unique type of IPVA is needed, as it is frequent, occurs amongst all levels of age, education, and income, and does severe damage. Economic abuse needs its own approach in prevention and intervention programs and in supporting IPVA survivors on multiple levels and thus also in terms of finances, employment, housing, studying, etc. Professionals working with survivors

of psychological IPVA should especially be aware of the possible presence of EA. Survivors of IPVA and EA should receive help regarding economic independence, finances, benefits, housing, employment, education, etc. They need help in rebuilding their own independent lives. However, it is important to note that, while financial independence can be a protective factor for IPVA, it can also be a risk factor when a male partner sees this independence as a threat. Therefore, we need to help women to confirm their independence within a gender-sensitive policy framework that understands IPVA, EA, and the role of employment (Anderson, 2010; Bouma et al., 2020; Sanders, 2015). Furthermore, Bouma and colleagues (2020) state that the job market has to get involved through educating, for example, employers, human resources representatives, and company doctors on EA.

New policy in the field of debt counselling in the Netherlands states that, as of 1 January 2021, municipalities need to contact their residents when they receive signs of debt (NOS, 2020). While this policy is primarily aimed at preventing larger debts and evictions, it may also help victims of EA from getting into further trouble. Professionals in debt counselling should be educated on EA and be aware of the possible presence of EA with their clients. The UK Economic Justice Project might provide valuable insights for this in terms of EA, coerced debts, and economic advocacy for survivors (Surviving Economic Abuse, 2020a).

Furthermore, on a legal level, the non-punishment principle can help EA survivors who, for example, were forced by their abusive (ex-)partners to make debts or commit fraud. If they can provide proof, this can influence possible punishment and, for example, make coerced debt uncollectible from the survivor (Bekken, 2018).

Lastly, EA and IPVA are topics that should receive more attention in the discussion about gender (in)equality in income (gender pay gap) and economic independence. Intimate partner violence and abuse, economic abuse, and economic dependence are intertwined and, in both instances, mostly women are negatively affected. For example, male survivors of IPVA are more economically independent than female survivors of IPVA. Furthermore, economic dependency as an obstacle for leaving a violent partner is less the case for male IPVA survivors than it is for female IPVA survivors (Anderson, 2007). Experiencing IPVA and EA make it harder to gain economic independence and being dependent makes it harder to leave the violent relationship. More (evaluation) research should be done on interventions such as *De Nieuwe Toekomst* (translation: The New Future), which focuses on personal development, autonomy, and economic independence for women who experienced IPVA (Movisie, 2018). Intimate partner violence and abuse and EA affect many women and limits their ability to create a

safe and (socially and psychologically) healthy environment for themselves (and their children). Economic abuse and economic dependence pose a big barrier for IPVA survivors to leave an abusive partner. If we sufficiently want to help IPVA survivors, we need to expand our awareness, knowledge, and expertise on EA.

Tables and figures

Table 1. Demographic data from the 2018 interview study population (N=12).

Participant	Age	Country of birth	Cultural identification	Income level in euro's
101	41	Netherlands	Dutch	33.000 - 39.500
102	33	Netherlands	Dutch	33.000 - 39.500
104	48	Netherlands	Dutch	39.500 - 66.000
108	47	Netherlands	Dutch	Till 26.500
201	50	Netherlands	Dutch	26.500 - 33.000
202	52	Netherlands	Dutch	39.500 - 66.000
203	48	Netherlands	Dutch	Rather not say
204	22	Netherlands	Dutch	Till 26.500
205	46	Netherlands	Dutch	Till 26.500
206	34	Netherlands	Dutch	Till 26.500
207	48	Netherlands	Dutch	26.500 - 33.000
208	51	Netherlands	Dutch	Till 26.500

*1 = physical, 2 = psychological, 3 = sexual, 4 = economic.

Table 2. Demographic data from the 2019/2020 RCT study population (N=198).

Age	Country of birth	Cultural identification**	Income level in euro's
18-25 = 20	The Netherlands = 170	Dutch = 178	Till 26.500 = 89
26-35 = 86	Belgium = 8	Turkish = 2	26.500 - 33.000 = 23
36-50 = 92	Colombia = 2	Moroccan = 3	33.000 - 39.500 = 18
	Germany = 2	Surinamese = 4	39.500 - 66.000 = 27
	Poland = 2	Indonesian = 5	66.000 or more = 15
	South Africa = 2	German = 2	Rather not say = 17
	Suriname = 2	Belgian = 6	Other**** = 9
	Other* = 10	Other*** = 19	

*Other = Australia, Botswana, Italy, Luxembourg, Morocco, Pakistan, Russia, Turkey, United States, Sweden | **Participant could check multiple boxes and can identify as, for example, Dutch and Turkish at the same time. |

Educational level	Children	Type of IPVA*
Vocational education	Yes	1,2,3,4
Higher vocational education	Yes	1,2,3
Postdoctoral	Yes	1,2
Secondary school	Yes	1,2,3,4
Higher vocational education	Yes	1,2,3,4
University	Yes	1,2
Higher vocational education	Yes	2
Vocational education	No	1
Vocational education	Yes	1
Vocational education	Yes	1,2
University	No	1,2,3,4
Vocational education	Yes	2

Educational level	Children	Type of IPVA
Primary school = 2	Yes = 128	Physical = 150
Secondary school = 22	No = 70	Psychological = 191
Vocational education = 74		Sexual = 67
Higher voc. education = 64		Economic = 86
University = 30		
Postdoctoral = 6		

***Other = Albanian, American, Blanc African, Colombian, French/Dutch, Hindu, Italian, Luxembourgish, mix, Dutch/Arabic way of living, Pakistani (partially Dutch), Polish, Russian, Spanish, Western European, Swedish. | ****Other = bankrupt; no idea; no income, no job; no income, still studying; benefit for youth with a disability.

Table 3. Socioeconomic status (N=210).

Educational level	Employment	Income level in euro's	Contribution to household income
Primary school, secondary school, vocational education: N=104	***Yes (at least part-time):*** N=122	***26.500 or less:*** N=94	***Approximately 100%:*** N=112
Higher vocational education, university or postdoctoral: N=106	***No:*** N=88	***26.500 - 33.000:*** N=25	***Approximately 75%:*** N=13
		33.000 - 39.500: N=20	***Approximately 50%:*** N=33
		39.500 - 66.000: N=29	***Approximately 25%:*** N=21 ***0%:*** N=20
		66.000 or more: N=15	***Rather not say:*** N=11
		Rather not say: N=18	
		Other: N=9	

Table 4. Multiple regression models on EA (N=181).

Variables	*B*	*SE B*	*B*	ΔR^2
Model 1				.036
Constant	-.028	.181		
Physical IPVA	.014	.080	.012	
Psychological IPVA	.420	.168	.172**	
Sexual IPVA	.131	.072	.125	
Model 2				.024
Constant	.004	.166		
Psychological IPVA	.448	.167	.183***	
Age groups*	-.008	.068	-.008	
Model 3				.031
Constant	.026	.164		
Psychological IPVA	.462	.167	.189***	
Educational level*	-.079	.068	-.080	
Model 4				.051
Constant	.102	.168		
Psychological IPVA	.418	.166	.179**	
Income level*	-.083	.039	-.152**	
Model 5				.095
Constant	.319	.180		
Psychological IPVA	.498	.165	.218***	
Income level	-.132	.041	-.238***	
Contribution household income	-.158	.058	-.204***	
Model 6				.091
Constant	.339	.188		
Psychological IPVA	.501	.166	.219***	
Income level	-.128	.043	-.231***	
Contribution household income	-.165	.062	-.214***	
Living situation*	-.030	.080	-.030	

Note: CI = confidence interval; N=181 as some participants answered 'rather not say' for questions regarding income level etc. | *****Age groups: 18-35 years old, 36-52 years old; Educational level: low (MBO or lower) and high (HBO or higher); Income level: till €26500, €26500-€39500, €39501 or more, no income; Contribution to household income: 0%, 25%-50%, 75%-100%; Living situation with or without (ex-)partner. | ******p<.05, ***p<.01.

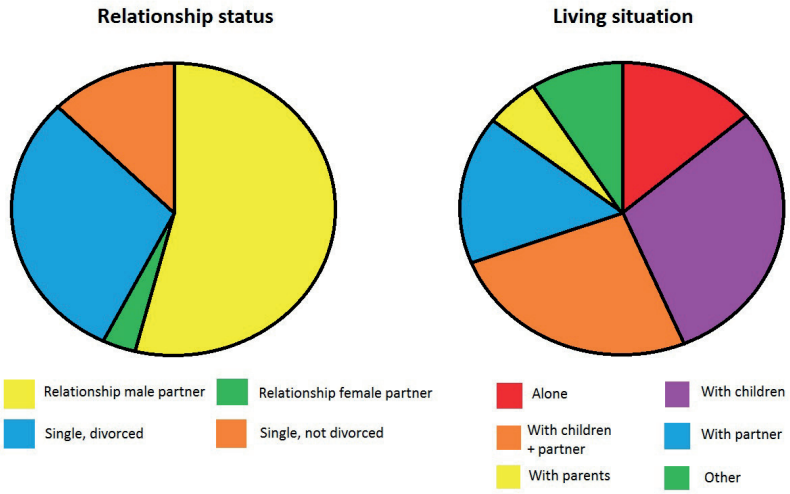


Figure 1. Current relationship status and living situation for female IPVA survivors in the Netherlands (N=210).

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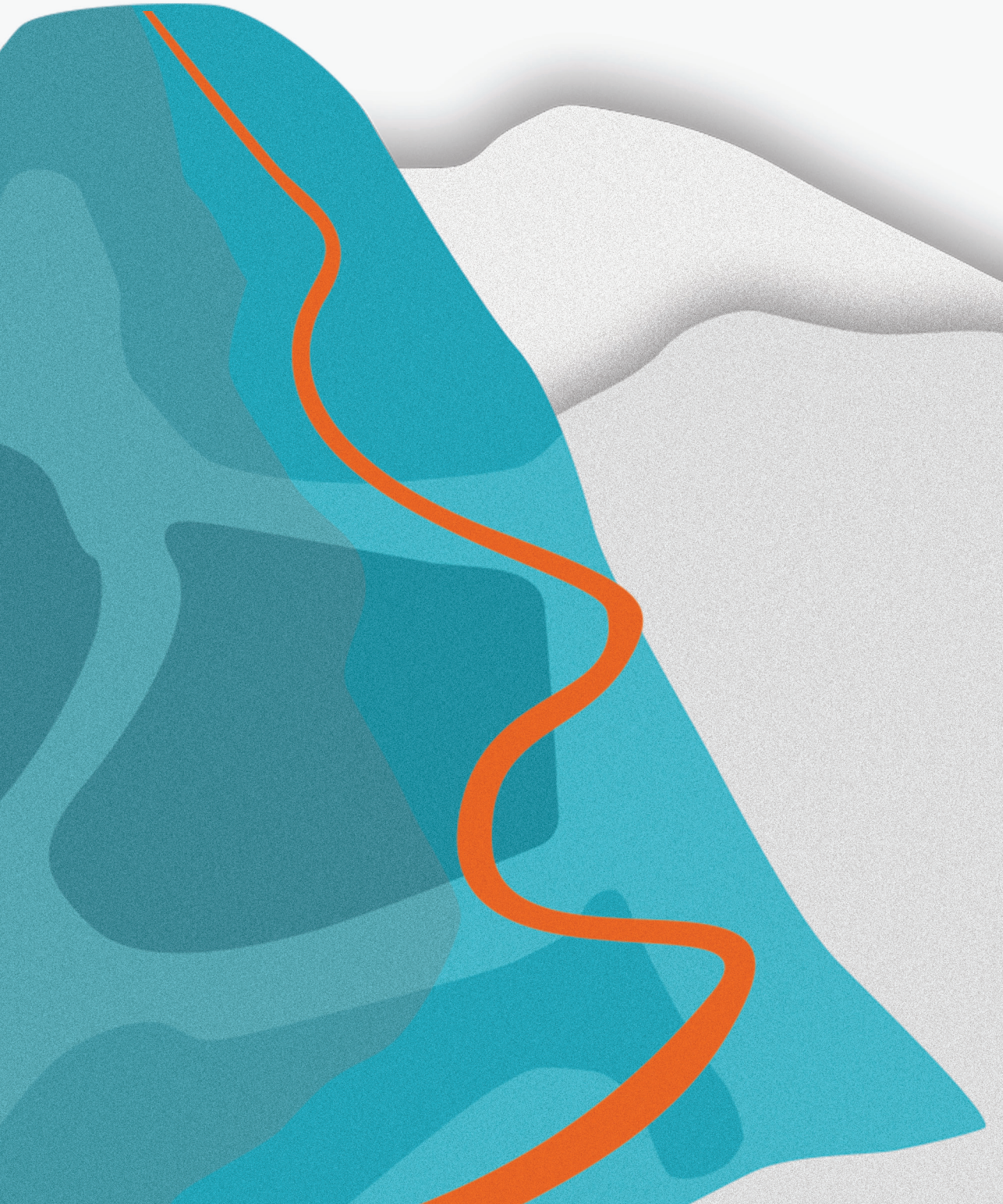

CHAPTER 7

General discussion

General discussion

This thesis focused on the development, implementation, and evaluation of the SAFE eHealth intervention for women survivors of IPVA. Many women experience at least one type of IPVA in their lifetime and as online support tools become increasingly available for (mental) healthcare, the SAFE intervention is the first scientifically developed and evaluated online self-support intervention for women survivors of IPVA in Europe. This final chapter reflects on the outcomes from the studies described in chapter two, three, four, five, and six. Furthermore, directions for future research and eHealth intervention developments are discussed.

Help options and help seeking for women survivors of IPVA in the Netherlands

In the Netherlands, various professional help options are available to women who experience IPVA, such as the police, *Veilig Thuis* (translation: Safe Home), and local DVA organizations that provide support and shelter. Despite these options, they do not reach all survivors of IPVA and survivors tend to turn to informal support more often, such as friends and family members, when they seek help (Akkermans et al., 2020; Centraal Bureau voor de Statistiek, 2020; van Eijkern et al., 2018). While informal support is important, it is unlikely all the survivor's needs can be addressed with this type of help (Cho et al., 2020). Online tools can partially address some of the barriers that survivors face in seeking professional help, for example by offering anonymity and easy accessibility, and act as a stepping stone towards professional help. For example, when survivors are in a stage of contemplating changing their situation by reaching out to professional help (Zink, Elder, Jacobson & Klostermann, 2004). Hence, some organizations (e.g. DVA organization *Fier* and the Sexual Assault Center; Dutch: *Centrum Seksueel Geweld*) enhanced their accessibility by offering online contact options, for example by offering an online chat at certain hours during the day. The supply of online tools rapidly expanded during the COVID-19 pandemic due to isolation and social distancing measures, with various DVA organizations (e.g. *Veilig Thuis*) starting to offer online support similar to the options that *Fier* and the Sexual Assault Center offered already, for example a chat function on their website (van Gelder et al., 2021b). However, an online self-support intervention with various (interactive) features to inform and support survivors of IPVA and encourage them to seek help tailored to their own needs was not available yet. Given the obvious need for low-threshold information and support services for survivors of IPVA, which became even more urgent during the pandemic (van Gelder et al., 2021b), we developed the SAFE intervention and launched it on April 1st 2019 (van Gelder et al., 2020).

Examples of professional help options in the Netherlands:

- ***Police.***
- ***Veilig Thuis*** (national DVA organization for reporting and advice; translation: Safe Home).
- ***Local DVA organizations (support on various levels and shelter)***, such as: Fier, Kadera, Moviera, Blijf Groep, Sterk Huis, Filomena Centrum Huiselijk Geweld en Kindermishandeling.
- ***Sexual Assault Center*** (Dutch: *Centrum Seksueel Geweld*).
- ***General practitioner / family doctor (medical aid).***
- ***Psychologist / psychological help.***
- ***Victim Support Netherlands (legal aid)*** (Dutch: *Slachtofferhulp Nederland*).
- ***Social work.***

Developing an online intervention for women survivors of IPVA

When developing an (eHealth) intervention for survivors of IPVA, it is crucial to gather the insights of the people who experienced it and, ideally, actively involve them in the design of supportive interventions. For the SAFE intervention, we conducted participatory research with women survivors of IPVA and professionals to gather their experiences, opinions, and knowledge. Together with scientific insights and inspiration drawn from comparable initiatives like the I-DECIDE (Hegarty et al., 2015) and Feel the ViBe studies (van Rosmalen-Nooijens et al., 2017), the interview study (chapter 2) provided essential information to build the technical features, modules, and content of the intervention platform (www.safewomen.nl).

We gathered data from 16 participants with the initial plan to interview eight survivors and eight professionals. However, while analyzing the interview data we discovered a third group that is rarely considered in scientific research: the survivor-professionals, who have both personal experience with and professional knowledge of IPVA. The input of this hybrid group functioned as a bridge between the input provided by survivors and professionals, and the survivor-professionals also provided unique feedback that was not found in the other two groups (Movisie, 2021b). Thus, it is important to investigate wishes, needs, and barriers from different perspectives, including hybrid ones, when developing an (online) intervention to reach a more nuanced and in-depth image of these aspects.

Besides the interviews, we also invited survivors and professionals to participate in two focus groups to discuss and evaluate the first two prototypes of SAFE. Six interview participants in total joined the focus groups. While we did not publish these results, they informed us about successful intervention components and areas in need of improvement and they helped shape the final version of the intervention. For example, our escape button first stated 'open a different website' but the focus group mentioned this could be confusing ("*Which website? Can I choose one?*") and participants were not necessarily aware that it was an escape button. In the final version, based on the recommendations of the focus group, the escape button displayed the text 'leave this website' and an explanation about it was added in a pop-up. This process supported the need of participatory research to achieve optimal user-oriented design (van Gelder et al., 2022).

Evaluating an online intervention for women survivors of IPVA

Through quantitative and qualitative research, this study found that while there were no significant statistical differences in mental health of the participants in the intervention arm and the control (minimal intervention) arm, participants from both study arms evaluated the intervention in a similar, positive manner. However, the intervention arm participants rated the intervention in significantly more positive terms, specifically the overall quality, the feeling of perceived support, and SAFE's suitability to their needs. Furthermore, they stated that the intervention was helpful with regard to awareness, acknowledgement, and support. These findings are similar to those in other online IPVA intervention studies and we also found promising results for feasibility aspects (chapter 4 and 5; Emezue et al., 2022).

Rethinking the study design and outcomes

To evaluate the SAFE intervention's effectiveness, we used an RCT as other studies on similar online interventions for IPVA survivors (Ford-Gilboe et al., 2020; Glass et al., 2021; Hegarty et al., 2019; Koziol-McLain et al., 2018). The RCT is still perceived as the gold standard for evaluating medical, psychological, and social interventions and is favored in both funding and publishing opportunities. However, it is known that an RCT alone does not always do justice to the complex mechanisms determining the effectiveness and use of an (eHealth) intervention. Furthermore, older methods do not always fit the fast-paced development and improvement cycles of eHealth tools and new directions for studying them are being explored. Because the RCT shows limitations in assessing effectiveness of complex interventions such as SAFE, we used

a mixed methods design consisting of an RCT, quantitative and qualitative process evaluation, and feasibility assessment (Craig et al., 2008; Day et al., 2022; Goodman et al., 2018; National Institute for Health and Care Excellence, 2022; Pham et al., 2016; van Gelder et al., 2020; Wired, 2022).

The RCT can be one of the evaluation methods used but it should be interpreted with caution as it was originally designed for pharmacological interventions. When looking at the control arm, it becomes clear how an eHealth intervention for IPVA survivors differs from a pharmacological intervention in terms of study design. A pharmacological study would work with a 'real' control group that for example receives a placebo or is waitlisted. When working with survivors of IPVA who reach out for help, it would not be ethical to conduct an RCT with a 'real' control group, thus a group who does not receive any treatment or is waitlisted. In the case of our SAFE study, the control arm received a limited version of the intervention which influences the outcomes and comparison between the control and intervention arm (Bothwell et al., 2016; van Gelder et al., 2020).

Specifically for online support for survivors of IPVA, interventions are often aimed primarily at people who are in the first stages of change, meaning they are in the (pre) contemplation phase where their awareness and acknowledgement of their situation increases, or they contemplate disclosure and seeking help (Zink et al., 2004). An eHealth intervention could be helpful in these stages but this is not necessarily reflected in the outcomes of an RCT, as this individual process is difficult to capture in outcomes being presented at group levels (control and intervention arms) and within standardized outcome measures. Therefore, other evaluation methods, such as qualitative methods and feasibility assessments, are key in thoroughly assessing effectiveness. For example, the feasibility study (van Gelder et al., 2023a) was of great importance to gain knowledge on how the eHealth intervention was used by IPVA survivors and its (potential) place within the existing professional help system. The qualitative study (van Gelder et al., 2023b) provided essential information on what specific elements of the intervention were helpful and why. Thus, to obtain an in-depth understanding whether, how, and why an intervention yields successful results with its target group and to assess its effectiveness in a real-world situation, it is crucial to conduct mixed methods research and gather data through various methods and sources.

Last, when deciding on outcome measures for assessing effectiveness, the perspectives from the intervention's target group should be assigned more value as the intervention is designed for them and should primarily be suited to their

needs and motivations for using the intervention. For example, the interview study that was part of the development phase of the SAFE intervention showed survivors prominently valued acknowledgement but the primary outcome measure of the RCT study was self-efficacy (van Gelder et al., 2022; van Gelder et al., 2020). A target-group oriented participatory and (partially) bottom-up research approach would provide us with essential insight into what survivors actually seek and need in online interventions, and how we can best facilitate and evaluate this. Therefore, assessing the user's individual expectations and needs when they start using the intervention and evaluating these over a longer period could provide different focus points for assessing an intervention's effectiveness from the perspective of its users. This is in line with the growing interest in patient-related outcome measures (PROMs) in health research, which increasingly focuses on what patients experience and value (Field, Holmes & Newell, 2019; Mercieca-Bebber et al., 2018; Riis et al., 2019) and not solely on researcher-defined outcomes.

Integrating online interventions in the support system for IPVA survivors

The development and evaluation of SAFE was the first step in creating evidence-based online self-support for survivors of IPVA in the Netherlands. Other online means for this target group, such as chats, became increasingly available during the COVID-19 pandemic (van Gelder et al., 2021b) and all these initiatives can learn from each other to optimize professional online help. The SAFE intervention shows promising results in the fields of implementation and integration. However, when exploring the interactions between online and offline (in-person) help for survivors of IPVA, we found that these two types of support appear to be separate systems instead of an integrated one. No significant correlations were found between online and offline types of help and many participants stated to be unfamiliar with online help (van Gelder et al., *under review*). Since both survivors and professionals appreciated the opportunities online support offers, as well as the potential advantages in combining online and offline help (blended care), this area should be a target for future research. We need to optimize online support but should also focus on its integration with offline support to best tailor the support offer for IPVA survivors (van Gelder et al., *under review*; van Gelder et al., 2021b). An online intervention has the potential to support IPVA survivors at various stages of their journey in help-seeking and recovery (Figure 1).

Figure 1. Integration of online support in the professional help system.

Informing, validating, and encouraging

Online platforms can be especially well-suited to provide easily accessible information and educate people (e.g. survivors, bystanders, professionals) about IPVA and its diverse forms and dynamics. The SAFE website could take on this role and explicitly focus on lesser known and acknowledged types of IPVA, such as psychological abuse and economic abuse (Johnson et al., 2022; Martín-Fernández et al., 2019; Postmus et al., 2020; Schokkenbroek et al., 2022; van Gelder et al., 2021a), as well as technological abuse (e.g. online stalking, tracking, shame sexting, sextortion, sexual deepfakes, hacking, spyware) (Al-Alosi, 2020; Duerksen & Woodin, 2019; Gilbar et al.; Schokkenbroek et al., 2022). Furthermore, information can easily be provided in multiple languages which is important in creating a larger outreach within society. For example, people with a migrant background who do not speak the language of their new home country are more vulnerable to experience (increased) IPVA (Elbelassy et al., 2022; Freedman, 2016; Wachter et al., 2021). It can be harder for them to know what their rights are and where to seek help if this information is not available in a language they sufficiently master. This can be easily provided online, empowering survivors in extra vulnerable situations and making support more accessible.

Another important function of online platforms is providing stories from other survivors to promote awareness and acknowledgement, for example with written texts and audio or video recordings (van Gelder et al., 2022; van Gelder et al., 2023b). The third-party experiences from other survivors should ideally reflect the diversity in IPVA types and dynamics to ensure that survivors who are dealing with lesser known or acknowledged IPVA situations connect with the stories as well and find validation of their experience. The stories from fellow survivors can encourage them in their help-seeking process while also showing understanding for the obstacles they could face.

Furthermore, information about victims' rights, support options and professional help trajectories can be easily delivered via online means. This information allows survivors to tailor the type of support they seek to their personal needs, as some survivors might for example want to contact the police or neighborhood police officer (in Dutch: *wijkagent*) while others in a similar situation might want to speak with their general practitioner or a social worker. It can also reassure them about what it means to reach out to certain authorities or organizations, as many survivors are unsure about what will happen. This is especially important for survivors who need help but distrust these services. For example, because they think that contacting them automatically means losing your children regardless of the situation (García-Quinto et al., 2022; Petersen et al., 2005; van Gelder et al., *under review*). An eHealth intervention can motivate survivors in various ways to seek (in-person) professional help (van Gelder et al., 2022; van Gelder et al., *under review*; van Rosmalen-Nooijens et al., 2017).

Bridging a waiting list period

Depending on the type of help that a survivor seeks they could be confronted with a waiting list period before they can actually receive the support they need. This could be the case with psychological help (Nederlandse Zorgautoriteit, 2021; Vektis, 2022). However, this does not mean that nothing can be offered to a survivor to bridge the waiting list period. For example, depending on what is suitable to the survivor's specific situation, they could be digitally provided with information on IPVA and its impact (psychoeducation), or on strategies for coping, stress reduction, and a healthy lifestyle (Duffy et al., 2020; Lorenz et al., 2019; Vollert et al., 2019).

Additional support to complement in-person professional help

When a survivor receives professional in-person help, online means could be used in a complementary manner. In the Netherlands, eHealth applications and modules are increasingly used in healthcare and mental healthcare (de Winter & van de Poel, 2021; RIVM, 2022). DVA organizations sometimes offer online modules as well, for example

to survivors in shelters (van Gelder et al., 2022; van Gelder et al., *under review*). Both IPVA survivors and professionals have expressed an interest in blended care as it can for example increase flexibility and the survivor's autonomy. They mentioned examples of how this could be arranged. Online support complementary to in-person help can consist of psychoeducation and exercises in various forms, such as written text, audio, and video. It can also consist of online facilitated peer support (van Gelder et al., 2021b; van de Ven, 2020; van Gelder et al., *under review*). At this stage, an online platform could encourage a survivor to continue therapy, start with additional help, or continue the search for a suitable type of help when they are experiencing difficulties. For example, with motivating exercises or via chatting or video calling with fellow survivors who understand the struggles and victories in the recovery process and who can motivate someone to persevere (Fortuna et al., 2019; Stenberg, Gillison & Rodham, 2022; van Rosmalen-Nooijens et al., 2017; Wentzel et al., 2016).

Aftercare and stepping stone for seeking follow-up support

After ending a professional help trajectory, it could be helpful for survivors to receive some form of aftercare. For example, survivors of sexual violence and severe violence express a need for the professional checking in with them for a certain period of time after ending the support, asking about their wellbeing and assessing whether they need follow-up support (Kragting et al., 2022). This aftercare trajectory could be facilitated online, for example with video calling, e-mail, or a personal message system.

Within the SAFE study, survivors who had ended the abusive relationship and who (had) already received professional help also used the intervention (van Gelder et al., 2023a, 2023b). Survivors can use online platforms to find additional information or stories from other survivors, options for peer support, and to seek follow-up help, depending on their personal needs and situation after a professional help trajectory has ended. Similar to the informative and stepping stone function in the early stages of help-seeking, the availability of online tools could lower the barrier for seeking follow-up support if needed.

Intersectionality and online interventions for IPVA survivors

Developing an online platform for IPVA survivors should employ an intersectional approach: paying explicit attention to the combination and interaction of a diverse range of factors, such as gender, cultural background, and socioeconomic status, and their compounding influence on someone's experience of IPVA. For example, as stated

earlier, online platforms are suitable to provide information in multiple languages and this increases survivors' empowerment. However, cultural sensitivity is important to consider when translating information, as views on IPVA and suitable support can differ across cultural backgrounds. Therefore, people from various cultural backgrounds should be consulted and involved when tailoring an intervention to different groups of users, in order to adequately understand the interplay between cultural aspects and views on or experiences of IPVA and support (Decker et al., 2020; Sabri et al., 2021). The SAFE study was conducted in Dutch but we also conducted a study on cultural sensitivity and subsequently translated the intervention's essential information on IPVA and help options into English and Arabic (Elbelassy et al., 2022). This can be expanded by adding more languages while conducting research amongst diverse target groups to guarantee the cultural sensitivity of the translations. Another point of attention is a low level of literacy as the SAFE intervention was not checked systematically for providing all information (in Dutch, English, and Arabic) at B1 level (at this level 80% of the people should be able to understand the text; Klinkende Taal, n.d.).

Furthermore, people with physical and / or mental disabilities are often overlooked in research and in the development of support options for survivors of IPVA, although they are victimized by an intimate partner more often than people without a disability. This group could have more complicated help-seeking journeys as well (Ballan et al., 2014; García-Cuéllar et al., 2022). They can experience different types of abuse that are less common for other groups, such as ableist attitudes (discriminating and stigmatizing people with disabilities; Campbell, 2009) and chemical restraints (e.g. controlling (access to) contraception or essential medications / treatments, coercing the use of unnecessary medications or illegal drugs; Walker et al., 2021).

Also, we should consider IPVA in the context of various gender identities and sexual orientations. For example, looking at IPVA in both heterosexual and non-heterosexual relationships, such as same-sex relationships and bisexual survivors of IPVA. LGBTIQA+ survivors of IPVA often face additional barriers in help-seeking and have trouble identifying with the mainly heteronormative images of IPVA situations (Akkermans et al., 2020; de Blank et al., 2021; Decker et al., 2018; Movisie, 2022; Russell, 2020). Fortunately, women who did not identify as heterosexual accessed SAFE in numbers representative of the general Dutch female population (Movisie, 2021a; van Gelder et al., 2023a), demonstrating its applicability also beyond IPVA in heterosexual contexts. Furthermore, when looking at heterosexual relationships, men who experience violence and abuse from a female (ex-)partner can face increased stigma and disbelief and a lack of acknowledgement (partially) due to stereotypical

gender views (Bates et al., 2019; Hogan et al., 2021; Huitema & Vanwesenbeeck, 2016). Last, more attention should be paid to survivors who are not cisgender (sex and gender identity match) or that do not belong to either one of the binary sex categories (male and female), for example transgender people and intersex people, as they often remain unseen in both research and professional help for domestic violence (de Blank et al., 2021; Movisie, 2022).

The aforementioned factors are not exhaustive, many more can influence the situations survivors experience and need to be taken into account. In aiming to optimize (online) support for survivors of IPVA, we need to engage with them and adopt an intersectional view that addresses diverse contexts, perspectives, dynamics, and experiences.

Lastly, although it is often overlooked in research, reaching a target group can take enormous efforts, especially for a newly launched intervention. We put a significant amount of time and energy in creating awareness about IPVA and the SAFE platform, via e.g. (online) magazines, (online) items in (national and regional) news outlets (e.g. websites, newspapers, radio, TV), social media (Instagram, Twitter, Facebook, LinkedIn), engaging in public debate, reaching out to professionals, politicians and fellow researchers, and giving workshops and lectures for (future) professionals and the general public. Despite these efforts, there are women survivors of IPVA who we did not reach, for example because some women do not have private access to the internet due to their partner's controlling behaviors or due to language, literacy, and digital skill barriers. Although specific to the situation in the Netherlands, 79% of people between 16 and 75 years old have at least basic digital skills (Centraal Bureau voor de Statistiek, 2022), which still poses some limitations in terms of digital access to the intervention. Overall, active outreach based on an intersectional approach that focuses on safety is an essential element for a successful eHealth intervention.

Conclusion

The SAFE eHealth intervention has shown its promise in supporting women survivors of IPVA, especially in providing awareness, acknowledgement, and support. It can serve as a low-threshold educational platform and as a stepping stone towards face-to-face professional help (Figure 1). Given the gaps in research, policy, and practice and the novelty of online support in the context of IPVA, SAFE has the potential to be improved and expanded. As the feasibility assessment produced positive outcomes as well, for example for demand and acceptance, the intervention could be integrated

in the current system of professional help for IPVA survivors. However, since online and offline help are not yet integrated into one system in the Netherlands, this might pose a challenge that should be actively addressed in the future. For example, DVA organizations could provide information on their websites on the types of support they offer, what they entail exactly, and examples of survivors' help trajectories to lower barriers in seeking in-person professional help. DVA organizations could also tailor the means of contact to the survivor's wishes, for example appointments taking place in-person, on the phone, in a video call, or via e-mail. Furthermore, DVA organizations could invest in adopting online means and professionals could be trained in providing online and blended support to improve and ensure its quality (van Gelder et al., 2021b; van Gelder et al., *under review*). Developments in this field are promising and we aim to contribute to the optimization of (online) support for survivors of IPVA. We plan to further develop the SAFE platform using an intersectional approach and aim at making it part of an institutionalized integrative strategy in the Netherlands to combat IPVA and to support survivors, as SAFE has shown its value.

> *"Lots of love and thank you for this platform. It's been a nudge in the right direction for me. I learned that doing what's best for yourself isn't something to be ashamed of, it's a good thing."* - Quote from a personal message sent by a woman who used SAFE.

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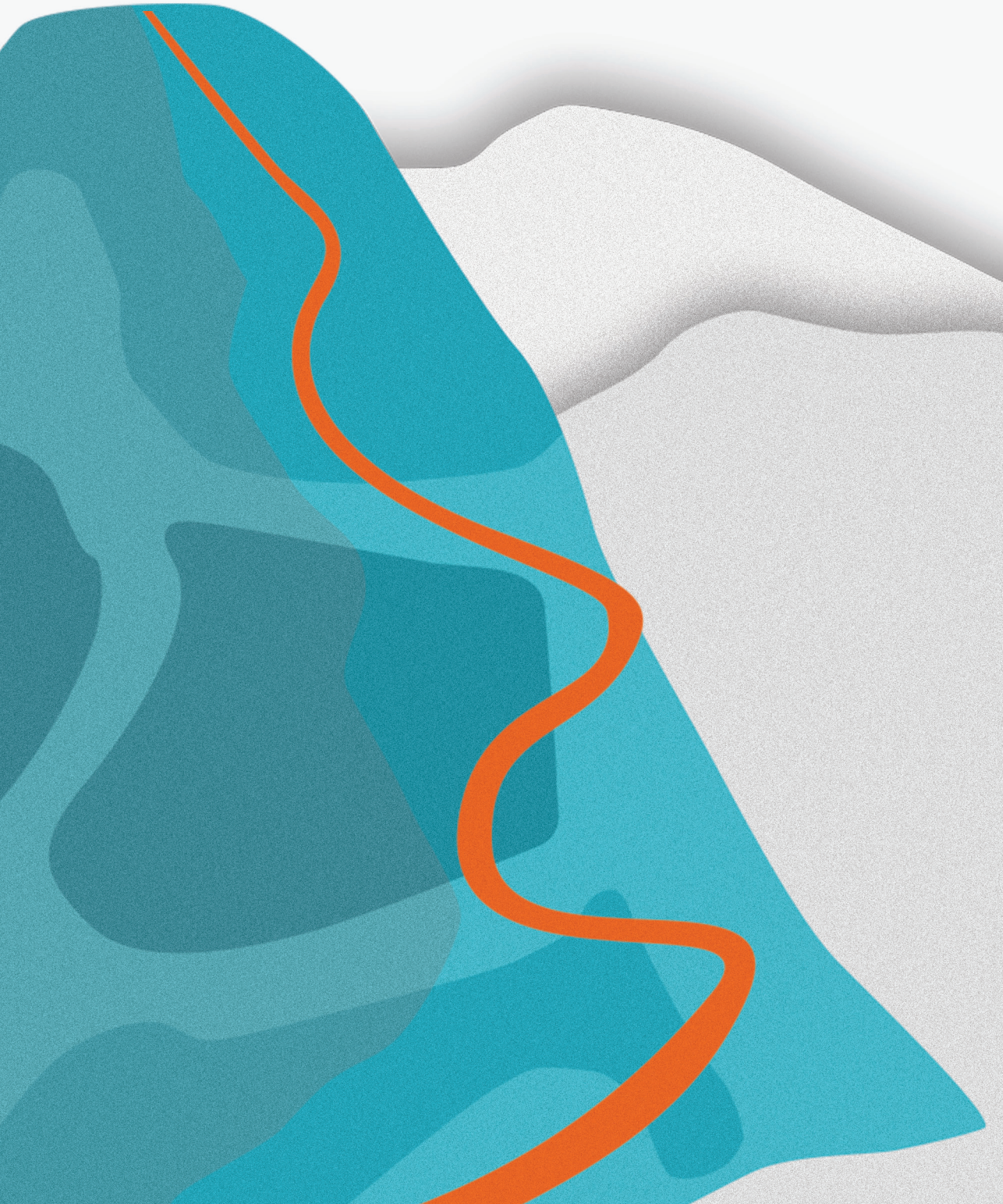


APPENDIX

Nederlandstalige samenvatting

Nederlandstalige samenvatting

Hoofdstuk 1: Algemene introductie.

Partnergeweld omvat verschillende vormen van geweld (psychisch, fysiek, seksueel, economisch) tussen (ex-)partners. Het is een vorm van huiselijk geweld die veel voorkomt, in alle lagen van de samenleving. Met name vrouwen worden getroffen als het gaat om structureel geweld en geweld met een fatale afloop. In Nederland maakt 21% van de vrouwen (15–49 jaar) ooit in haar leven fysiek of seksueel (ex-) partnergeweld mee, hierbij kan men bijvoorbeeld denken aan slaan, wurgen, aanranding en verkrachting. In de Europese Unie ervaart 44% van de vrouwen psychisch (ex-)partnergeweld, zoals controlerend gedrag, vernedering en manipulatie. Een minder bekende vorm van partnergeweld is economisch geweld. Economisch (ex-)partnergeweld kan bestaan uit niet mogen werken of studeren, geen toegang hebben tot geld en middelen, of een partner die schulden maakt in jouw naam. Deze geweldsvorm wordt niet structureel uitgevraagd in prevalentieonderzoek en voor Nederland is er dan ook geen specifiek percentage bekend, maar in internationale studies onder slachtoffers van (ex-)partnergeweld vond men percentages van 90% en hoger. Wat betreft (ex-)partnergeweld met een fatale afloop is er sprake van (ex-) partnerdoding bij ongeveer 60% van alle doodslag- en moordzaken met een vrouw als slachtoffer in Nederland. De werkelijke aantallen van (ex-)partnergeweld en (ex-) partnerdoding liggen waarschijnlijk hoger aangezien veel geweld niet officieel wordt gemeld of als zodanig wordt geregistreerd.

Partnergeweld heeft negatieve gevolgen op meerdere levensgebieden, zoals de fysieke en mentale gezondheid (bijv. verwondingen, chronisch letsel, laag zelfbeeld, depressie, posttraumatische stressstoornis, angst), het gezins- en sociale leven (bijv. geen / weinig contact met vrienden of familie, negatieve gevolgen voor kinderen die getuige zijn van het geweld en / of zelf ook mishandeld worden) en de financiële situatie (bijv. baan- en inkomensverlies, schulden opbouwen).

In Nederland bestaan verschillende vormen van hulp voor slachtoffers van (ex-) partnergeweld, waaronder psychische / emotionele hulp, juridische hulp en opvang. Voorbeeld van hulpinstanties zijn: politie, GGZ, slachtofferadvocaten, Veilig Thuis, huiselijk geweld organisaties (bijv. Fier, Blijf Groep), Centrum Seksueel Geweld en Slachtofferhulp Nederland. Ondanks het grote en diverse hulpaanbod blijkt dat het systeem in Nederland niet altijd toereikend is in het bereiken van slachtoffers en het bieden van passende hulp. Ook ervaren slachtoffers vaak allerlei obstakels in hun proces van het (h)erkennen in welke situatie ze zich bevinden en het zoeken van hulp.

Schaamte, angst en schuldgevoelens spelen daarin een grote rol. Andere voorbeelden zijn: angst om de kinderen te verliezen, nog houden van de partner, niet weten waar je terecht kan voor hulp, een taalbarrière en financiële problemen.

Online middelen kunnen ingezet worden om sommige drempels in het hulp zoeken te verlagen, bijvoorbeeld omdat het eenvoudig toegankelijk en anoniem te gebruiken is. In Nederland bestond voor de COVID-19 pandemie al wel een beperkt online aanbod, maar gedurende de pandemie is het aanbod en het gebruik snel toegenomen. Online interventies voor vrouwen die slachtoffer zijn van partnergeweld in het buitenland lieten wisselende resultaten zien op het gebied van de mentale gezondheid, maar gaven wel een consistent positief beeld over ervaren steun en hulp.

Ons team van de afdeling Eerstelijnsgeneeskunde van het Radboud universitair medisch centrum (Radboudumc) heeft, met subsidie van ZonMw, de online interventie SAFE (www.safewomen.nl) ontwikkeld en geëvalueerd. In de ontwikkelfase hebben we een interviewstudie uitgevoerd naar de wensen, behoeften en obstakels volgens slachtoffers en professionals (hoofdstuk 2). In hoofdstuk 3 zetten we de evaluatiemethoden uiteen in het onderzoeksprotocol. De evaluatie richt zich onder andere op *self-efficacy*, bewustwording, depressie, angst en ervaren steun. De uitkomsten van het kwantitatieve gedeelte van de evaluatie (*randomized controlled trial* (gerandomiseerd onderzoek met een controlegroep), kwantitatieve procesevaluatie en *open feasibility* studie) worden besproken in hoofdstuk 4 en de uitkomsten van het kwalitatieve gedeelte (procesevaluatie) in hoofdstuk 5. Hoofdstuk 6 gaat in op een thema dat onverwacht naar voren kwam in ons onderzoek en aandacht behoeft: economisch (ex-)partnergeweld. In hoofdstuk 7, de algemene discussie, worden onze bevindingen in het proces van het ontwikkelen en evalueren van een eHealth interventie voor slachtoffers van partnergeweld besproken en kritisch beschouwd, en worden aanbevelingen gedaan voor toekomstig onderzoek en de verdere ontwikkeling van SAFE.

Hoofdstuk 2: "Als ik destijds zoiets als SAFE had gehad, dan was ik misschien eerder bij hem weggegaan." – Essentiële onderdelen van eHealth interventies voor vrouwen die blootgesteld zijn aan partnergeweld: Een kwalitatieve studie.

De interviewstudie van hoofdstuk 2 vond plaats in de ontwikkelfase van de SAFE interventie en richtte zich op de wensen, behoeften en obstakels met betrekking tot een eHealth (online) interventie voor vrouwen die partnergeweld ervaren. In totaal interviewden we, met behulp van een semigestructureerde interviewgids, 16 deelnemers (vrouwen tussen 22 en 52 jaar oud). De groep bestond uit 8 vrouwen met een persoonlijke ervaring met partnergeweld, slachtoffers (*survivors*), en 8

professionals op het gebied van (ex-)partnergeweld. De interviewdata werd gecodeerd en geanalyseerd volgens de principes van open thematisch coderen en de gefundeerde theorie (*grounded theory*) benadering. Tijdens het analyseren van de interviewdata stuitten we op een derde groep onder de deelnemers: ervaringsdeskundigen (*survivor-professionals*)[1]. Dit waren vrouwen met persoonlijke ervaring met (ex-)partnergeweld en met professionele kennis op het gebied van dit type geweld. Deze groep vervulde een brugfunctie tussen de slachtoffers (*survivors*) en de professionals. In grote lijnen kwamen dezelfde prioriteiten bij alle groepen naar voren: veiligheid, (h)erkenning, contact met lotgenoten en hulp. Echter, elke groep bracht ook een eigen perspectief en unieke input mee. Zo benadrukten slachtoffers en ervaringsdeskundigen het veiligheidsaspect terwijl de professionals nadruk legden op (h)erkenning. Alleen de ervaringsdeskundigen noemden het belang van het aan bod laten komen van meerdere levensdomeinen in een online interventie. Het betrekken van deze groepen en hun ervaringen en visies is belangrijk om cliëntgerichtheid te verbeteren en de (verdere) ontwikkeling van nieuwe en bestaande eHealth interventies te informeren.

Hoofdstuk 3: SAFE: een eHealth interventie voor vrouwen die partnergeweld ervaren – Studieprotocol voor een gerandomiseerd onderzoek met een controlegroep, procesevaluatie en *open feasibility* studie.

Het protocol in hoofdstuk 3 beschrijft de evaluatiemethoden, meetmomenten en -instrumenten om de online interventie SAFE te evalueren. De interventie bestond uit 4 modules die informatie bieden over partnergeweld, hulpopties, mentale en fysieke gezondheid en sociale steun. Daarnaast waren er interactieve onderdelen: filmpjes waarin vrouwen hun ervaringen deelden, een chat en een forum. Met een *randomized controlled trial* (RCT; gerandomiseerd onderzoek met een controlegroep) werden twee groepen 6 tot 12 maanden gevolgd, waarbij na inloggen de ene groep alleen de essentiële, statische informatie ontving (controlegroep) en de andere groep ontving de volledige interventie, inclusief interactieve onderdelen (interventiegroep). Bij de aanmelding en na 3, 6 en 12 maanden werden de deelnemers uitgenodigd om online vragenlijsten in te vullen over onder andere *self-efficacy*, bewustwording, mentale klachten en ervaren steun. De primaire uitkomstmaat voor de RCT was *self-efficacy* zoals gemeten met de *General Self-Efficacy Scale*. Met de *Web Evaluation Questionnaire* die na 1, 3 en 6 maanden werd ingevuld en met semigestructureerde interviews werd de procesevaluatie uitgevoerd, die onder andere in ging op hoe

1 Ervaringsdeskundigen (in het Engelstalige artikel '*survivor-professionals*' genoemd) zijn mensen die zowel persoonlijke ervaring hebben met (ex-)partnergeweld als professionele kennis van dit geweld en / of die getraind zijn om hun ervaringskennis op een professionele manier in te zetten.

vrouwen de interventie hebben gebruikt en wat zij van de interventie vonden. Na afronding van de RCT en procesevaluatie vond een *open feasibility* studie plaats om gebruikersdata te onderzoeken in een 'echte-wereld' situatie, zoals de interventie beschikbaar zou zijn buiten de setting van wetenschappelijk onderzoek om.

Hoofdstuk 4: Effectiviteit van de SAFE eHealth interventie voor vrouwen die partnergeweld ervaren: Gerandomiseerd onderzoek met een controlegroep, kwantitatieve procesevaluatie en *open feasibility* studie.

Het kwantitatieve gedeelte van de evaluatie van de eHealth interventie SAFE wordt behandeld in hoofdstuk 4. Zoals beschreven in hoofdstuk 3 waren een *randomized controlled trial* (RCT; gerandomiseerd onderzoek met een controlegroep), *Web Evaluation Questionnaire* en *open feasibility* studie onderdelen van deze evaluatie. 198 vrouwen (tussen 18 en 50 jaar oud) die partnergeweld meemaakten, namen deel aan de RCT waarbij één groep (N=99) de complete versie van de interventie ontving (inclusief interactieve onderdelen zoals filmpjes met ervaringsdeskundigen, een chat en een forum; interventiegroep) en de andere groep (N=99) ontving een gelimiteerde versie met alleen statische informatie over partnergeweld en hulpopties (controlegroep). We volgden de deelnemers 6 tot 12 maanden middels online vragenlijsten. De effectiviteit van deze online interventie werd beoordeeld op *self-efficacy*. Secundaire uitkomsten waren depressie, angst, angst voor de partner, bewustwording, ervaren sociale steun en ervaren steun van de SAFE interventie. Daarnaast werden de ervaringen met en meningen over de interventie verzameld middels vragenlijstdata en werd er data verzameld over een aantal *feasibility* aspecten, zoals behoefte, implementatie en bruikbaarheid. Aan de *open feasibility* studie deden 170 vrouwen mee. Bij dit onderdeel was de aanmeldprocedure sterk versimpeld ten opzichte van de RCT studie en hadden de deelnemers allemaal toegang tot de complete versie van de SAFE interventie. We bekeken hoe vrouwen deze online interventie gebruikten in een 'echte wereld' situatie.

We vonden geen significante verschillen over de tijd tussen de controle- en interventiegroep voor *self-efficacy*, depressie, angst, angst voor de partner, bewustwording en ervaren sociale steun. Beide groepen toonden wel significante vermindering van angst voor de partner en angstklachten over de tijd. Over het algemeen waren de deelnemers van beide groepen positief over de interventie, maar de interventiegroep gaf de SAFE interventie gemiddeld een significant hoger cijfer dan de controlegroep (7,82 vs. 6,07). De interventiegroep beoordeelde de interventie ook significant beter op het gebied van geschiktheid en je geholpen voelen. Deze eHealth interventie werd eveneens positief beoordeeld op diverse *feasibility* aspecten, zoals vraag (*demand*) en acceptatie (*acceptability*).

De SAFE interventie lijkt een bruikbaar middel te zijn om vrouwen die slachtoffer zijn van partnergeweld te informeren en ondersteunen. Onze kwalitatieve evaluatie (hoofdstuk 5) toont op welke manier vrouwen geholpen zijn met de interventie, bijvoorbeeld voor steun en erkenning. Slachtoffers kunnen de interventie zelfstandig gebruiken, maar professionals zouden SAFE eveneens in kunnen zetten als een extra middel voor steun, ter overbrugging van een wachtlijstperiode voor een *face-to-face* interventie of als onderdeel van een *blended care* (combinatie van online en *face-to-face* hulp) benadering.

Hoofdstuk 5: Werkzame elementen in behulpzaamheid en het gebruik van de SAFE interventie voor vrouwen die partnergeweld ervaren: Een kwalitatieve evaluatie.

Het kwalitatieve gedeelte van de evaluatie van de eHealth interventie SAFE wordt behandeld in hoofdstuk 5. Voor deze studie zijn data verzameld middels open vragen in vragenlijsten die tevens onderdeel waren van de *randomized controlled trial* (RCT; gerandomiseerd onderzoek met een controlegroep) en in de *Web Evaluation Questionnaire*. In totaal verkregen we vragenlijstdata van 65 vrouwen en voerden we semigestructureerde interviews uit onder 10 vrouwen (tussen 18 en 50 jaar oud) die slachtoffer waren van partnergeweld en de eHealth interventie SAFE hadden gebruikt. De interviewdata werden gecodeerd volgens de principes van open thematisch coderen en alle kwalitatieve data werden geanalyseerd middels kwalitatieve inhoudsanalyse.

Over het algemeen was de meerderheid van de gebruikers positief over de interventie met betrekking tot: veiligheid, inhoud en in hoeverre de interventie passend was bij hun behoeften. Zoals in hoofdstuk 4 ook al werd aangegeven, was de interventiegroep positiever dan de controlegroep. De deelnemers gaven aan dat de SAFE interventie behulpzaam was op het gebied van erkenning, bewustwording en steun. Ze identificeerden ook verbeterpunten: de beschikbaarheid van een versimpelde versie van de interventie voor acute noodsituaties, meer aandacht voor slachtoffers die zich in de nasleep bevinden van het beëindigen van een gewelddadige relatie en (meer) informatie over specifieke onderwerpen, zoals: (ex-)partnergeweld via technische middelen, steun en hulp voor kinderen en juridische zaken. Het is van groot belang om diverse evaluatiemethoden in te zetten om een beter begrip te krijgen van de 'echte wereld' impact van een dergelijke interventie op de gebruikers, op welke manier zij wel en niet geholpen zijn met de interventie en welke betekenis de interventie voor hen heeft.

Hoofdstuk 6: Economisch geweld onder Nederlandse vrouwen die partnergeweld (hebben) ervaren: Een *mixed methods* benadering.

Vanuit onze SAFE studie kwam een belangrijk signaal naar voren dat in dit hoofdstuk wordt besproken: economisch (ex-)partnergeweld. Economisch geweld is een onderbelichte vorm van partnergeweld die nog niet altijd wordt (h)erkend als een opzichzelfstaande geweldsvorm. Dit type geweld bestaat bijvoorbeeld uit: geen / beperkte toegang hebben tot (gezamenlijk) geld en middelen, niet mogen werken of studeren of daarin ondermijnd worden, of de partner maakt opzettelijk schulden of pleegt fraude in naam van het slachtoffer. Dit kan de drempel om hulp te zoeken of de gewelddadige partner te verlaten nog verder verhogen.

We hebben een *mixed methods* studie uitgevoerd, bestaande uit een vragenlijst- (N=210) en interviewstudie (N=12) onder vrouwen (tussen 18 en 50 jaar oud) die slachtoffer waren van partnergeweld. 42,9% van de deelnemers gaf aan economisch (ex-)partnergeweld te hebben ervaren. Internationale studies vonden prevalentiecijfers van 90% en hoger onder vrouwelijke slachtoffers van (ex-)partnergeweld, dit heeft waarschijnlijk te maken met verschillen in de studieopzet. Andere studies hebben bijvoorbeeld expliciet economisch geweld onderzocht terwijl de data van ons onderzoek onderdeel zijn van een grotere studie die zich niet specifiek richt op economisch geweld. We vonden significante samenhang tussen dit type geweld en psychisch partnergeweld, inkomensniveau en bijdrage aan het huishoudinkomen. We vonden geen significant verband tussen economisch geweld en leeftijd en opleidingsniveau. Vrouwen bespraken verschillende uitingen van economisch geweld die zij hadden meegemaakt en de impact ervan. Gezien de prevalentiecijfers uit andere studies is het daadwerkelijke aantal vrouwen dat economisch (ex-)partnergeweld meemaakt waarschijnlijk nog hoger en meer onderzoek is nodig om deze geweldsvorm beter te begrijpen. In de hulpverlening aan slachtoffers van partnergeweld is het van belang dat er bekeken wordt of er sprake is van economisch geweld en dat passende hulp wordt geboden.

Hoofdstuk 7: Algemene discussie.

Dit proefschrift richtte zich op de ontwikkeling en evaluatie van de Nederlandse SAFE eHealth interventie voor vrouwen die partnergeweld ervaren. Hoofdstuk 7, de algemene discussie, bevat een reflectie op de uitkomsten van de eerder beschreven studies en richtingen voor toekomstig onderzoek en ontwikkelingen in online hulp bij (ex-)partnergeweld.

In Nederland zijn diverse hulpvormen beschikbaar voor mensen die (ex-)partnergeweld meemaken, zoals opvang, psychologische hulp en juridische ondersteuning. Echter, het duurt vaak lang voordat slachtoffers hulp zoeken en als ze dat doen, zijn ze meer geneigd om informele hulp, zoals vrienden en familie, te benaderen dan dat zij zich bijvoorbeeld bij Veilig Thuis of de politie melden. Ze ervaren verschillende obstakels in het zoeken naar hulp. Sommige barrières zouden (gedeeltelijk) verholpen kunnen worden met de inzet van online middelen, bijvoorbeeld vanwege anonimiteit en hoge mate van toegankelijkheid. De behoefte van slachtoffers aan een laagdrempelige mogelijkheid om informatie en steun te ontvangen, was een drijfveer om de online interventie SAFE te ontwikkelen die werd gelanceerd op 1 april 2019. Hoewel er voor de COVID-19 pandemie al enkele online middelen beschikbaar waren in de context van huiselijk geweld en seksueel geweld, groeide dit veld snel tijdens de pandemie.

Het is cruciaal om verschillende partijen vanuit en rondom de doelgroep te betrekken in het ontwikkelen van een (eHealth) interventie. Daarom hebben we tijdens de ontwikkelfase van SAFE een interviewstudie en focusgroepen uitgevoerd onder slachtoffers (*survivors*), ervaringsdeskundigen (*survivor-professionals*)[2] en professionals op het gebied van (ex-)partnergeweld en huiselijk geweld. Dit bracht waardevolle inzichten mee voor de uiteindelijke interventie en hoewel de groepen het grotendeels met elkaar eens waren over belangrijke punten en prioriteiten, leverde iedere groep ook haar eigen unieke input. Zowel op het niveau van inhoud en bejegening als functionaliteit hebben deze stakeholders ons geïnformeerd. Participatief onderzoek in verschillende fases van de ontwikkeling is essentieel om een (online) interventie goed aan te laten sluiten bij de doelgroep.

Om de SAFE interventie te evalueren, gebruikten we een *mixed methods design* met kwantitatieve en kwalitatieve onderzoeksmethoden. Vanuit deze evaluatie bleek dat er geen statistisch significante effecten waren van de eHealth interventie op de mentale gezondheid van de deelnemers in de interventiegroep in vergelijking met deelnemers in de controlegroep. We vonden wel een significant verschil tussen de groepen in hun waardering van de SAFE interventie: beide groepen waren positief, maar de interventiegroep was het meest positief en dit was onder andere terug te zien in de mate van je geholpen voelen. Vanuit de interviews kwam naar voren dat de interventie behulpzaam was voor bewustwording, erkenning en steun. Wat betreft de *feasibility* aspecten scoorde SAFE goed, onder andere op behoefte en implementatie.

2 Ervaringsdeskundigen (in het Engelstalige artikel '*survivor-professionals*' genoemd) zijn mensen die zowel persoonlijke ervaring hebben met (ex-)partnergeweld als professionele kennis van dit geweld en / of die getraind zijn om hun ervaringskennis op een professionele manier in te zetten.

De SAFE interventie en vergelijkbare online interventies voor vrouwen die partnergeweld ervaren, zijn geëvalueerd middels een RCT. Deze methode is de gouden standaard in met name de medische wetenschap, maar het lijkt niet per se de meest geschikte manier te zijn voor het evalueren van dit type interventies. De RCT kan waardevolle inzichten opleveren over effectiviteit, maar de RCT op zichzelf doet niet altijd recht aan de complexe mechanismen en elementen van een (online) interventie. Daarom hebben we voor SAFE een *mixed methods design* gebruikt, bestaande uit een RCT, kwantitatieve en kwalitatieve procesevaluatie en een *feasibility* studie. De RCT kan één van de evaluatiemethoden zijn in het evalueren van de effectiviteit, maar in de interpretatie moet men er rekening mee houden dat de RCT van origine is ontworpen voor farmacologische interventies en dat er dus verschillen zijn wanneer deze wordt ingezet voor een eHealth interventie als SAFE. Bij de RCT van SAFE zou het bijvoorbeeld ethisch niet verantwoord zijn om een 'echte' controlegroep te hebben waarbij deelnemers geen interventie zouden krijgen of op een wachtlijst terecht zouden komen, daarom kreeg deze groep een gelimiteerde versie van de interventie aangeboden en dit heeft ook invloed op de uitkomsten en de vergelijking tussen de interventie- en controlegroep.

Specifiek voor online hulp aan slachtoffers van partnergeweld geldt dat interventies zich voornamelijk richten op mensen die zich bevinden in de eerste fases van de *stages of change*. Dit betekent dat zij bezig zijn met het proces van bewustwording en erkenning en het nadenken over het zoeken van professionele hulp. Of en op welke manier een eHealth interventie behulpzaam kan zijn in deze fases wordt niet altijd gereflecteerd in de uitkomsten van een RCT. Daarom zijn andere evaluatiemethoden, zoals kwalitatieve en *feasibility* studies, van groot belang om nauwkeurig onderzoek te doen naar de effectiviteit. Bij SAFE was de *feasibility* studie bijvoorbeeld belangrijk om inzicht te krijgen in het gebruik van de interventie en haar plek in het bestaande systeem van professionele hulp. De interviewstudie leverde essentiële informatie op over de werkzame, behulpzame elementen van de interventie volgens de vrouwen die SAFE hadden gebruikt. Om een diepgaander begrip te krijgen van in hoeverre, hoe en waarom een interventie succesvolle resultaten oplevert bij de doelgroep en om onderzoek te doen in de context van een 'echte wereld' situatie, is het noodzakelijk om *mixed methods* onderzoek uit te voeren en data te verzamelen vanuit verschillende methodes en bronnen.

In het bepalen welke meetinstrumenten en uitkomstmaten worden ingezet om de effectiviteit te evalueren, moet er meer waarde toegekend worden aan de perspectieven van de doelgroep, aangezien de interventie voor hen wordt ontworpen en in de eerste plaats moet aansluiten op hun behoeften en motivaties voor gebruik.

Uit de eerste interviewstudie van SAFE bleek dat slachtoffers en ervaringsdeskundigen veel waarde hechtten aan erkenning, maar de primaire uitkomstmaat voor de RCT was *self-efficacy*. Een op de doelgroep georiënteerd, participatief onderzoek en een (gedeeltelijke) *bottom-up* benadering van onderzoek kan essentiële inzichten opleveren over wat slachtoffers van partnergeweld daadwerkelijk zoeken en nodig hebben in een online interventie en hoe we dit het beste kunnen faciliteren. De betekenis en het belang die de (beoogde) gebruikers zelf verlenen aan een interventie kan zowel de interventie als het onderzoek verbeteren.

Met het oog op toekomstige ontwikkelingen en onderzoek, kunnen de al bestaande initiatieven elkaar inspireren en van elkaar leren om deze vorm van hulp te optimaliseren. Er is ruimte voor verbetering in bijvoorbeeld het integreren van online middelen in het huidige hulpverleningssysteem, veel mensen zijn nog onbekend met de mogelijkheden van online hulp. Wanneer online en in-persoon (*face-to-face*) hulp beide worden aangeboden, kunnen ze elkaar complementeren en kan er afgestemd worden op de specifieke behoeften van een slachtoffer. Online hulp kan een rol vervullen op verschillende manieren en in verschillende fases van hulp zoeken en herstel, zoals:

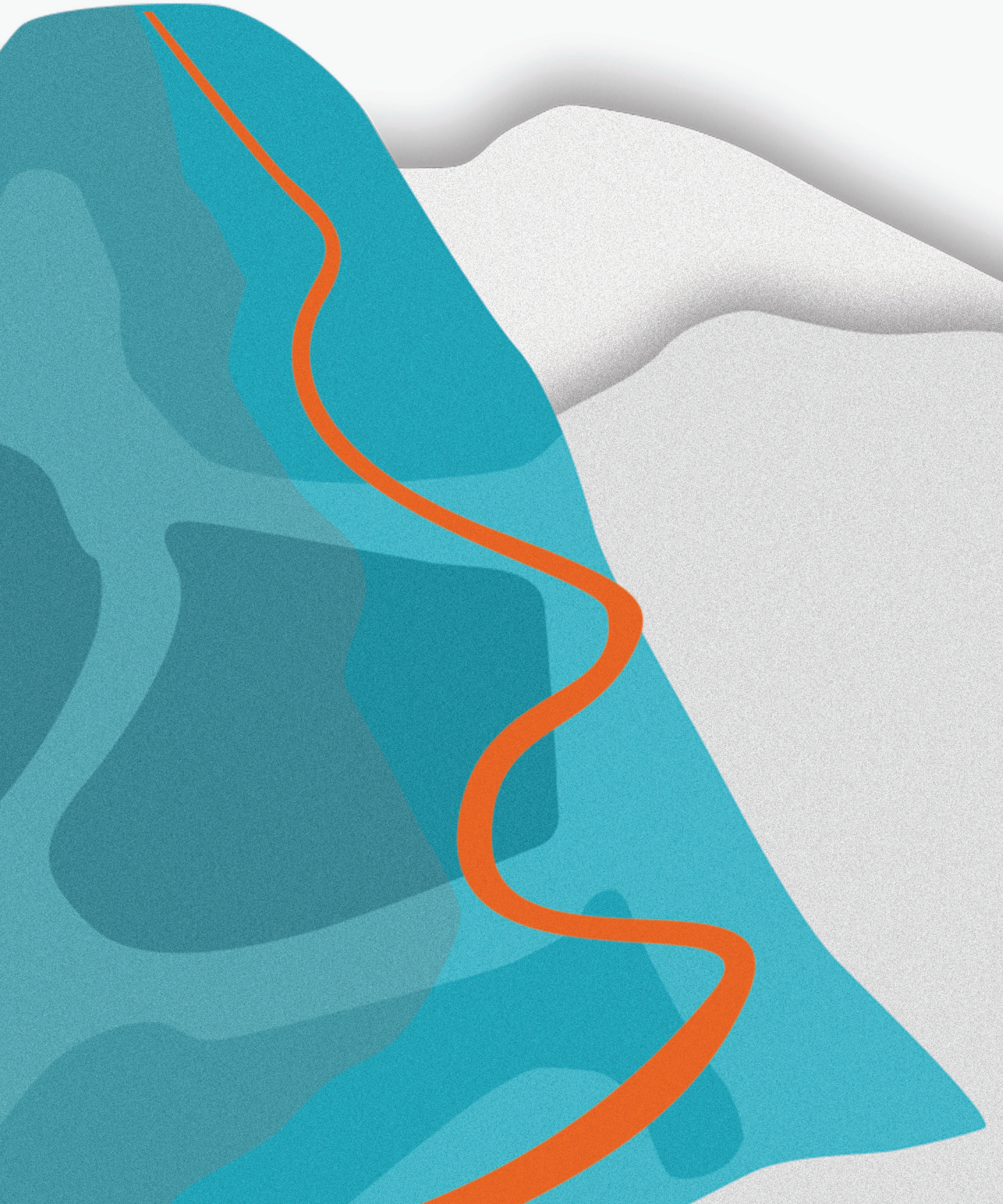
1) informeren, aanmoedigen en functioneren als een opstap naar professionele hulp;
2) een wachtlijstperiode overbruggen;
3) aanvullende hulp bieden bij professionele, in-persoon hulp;
4) een nazorgtraject bieden en functioneren als een opstap naar vervolghulp.

Online middelen kunnen een groter bereik hebben en erg behulpzaam zijn in het informeren van slachtoffers, bijvoorbeeld over minder bekende vormen van (ex-) partnergeweld (psychisch en economisch), ook in verschillende talen. Het biedt eveneens de mogelijkheid om verhalen van slachtoffers en ervaringsdeskundigen te delen, dit kan het proces van bewustwording en erkenning bevorderen en slachtoffers aanmoedigen om hulp te zoeken. Door informatie te bieden over welke hulpmogelijkheden er zijn, kan iemand een beter beeld krijgen van wat bepaalde typen hulp inhouden en welk type hulp past bij diens behoefte(n) op dat moment. Voor het overbruggen van een wachtlijstperiode kunnen slachtoffers mogelijk baat hebben bij het online verkrijgen van psycho-educatie en strategieën voor bijvoorbeeld *coping* en stressreductie. Als aanvullende hulp kunnen online middelen worden ingezet om psycho-educatie en oefeningen aan te bieden, ook online lotgenotencontact is mogelijk. Dit kan een slachtoffer ondersteunen om bijvoorbeeld therapie vol te blijven houden, ook wanneer iemand in een moeilijke periode zit. Als nazorgtraject kunnen professionals online middelen gebruiken, zoals videobellen, om na het beëindigen

van de hulp nog een periode laagdrempelig contact te houden met het slachtoffer en te informeren naar diens welzijn en mogelijke behoefte aan of noodzaak van vervolghulp. Slachtoffers kunnen een online platform ook gebruiken om zelf opzoek te gaan naar vervolghulp of lotgenotencontact.

Intersectionaliteit is een belangrijk aspect in interventieontwikkelingen en toekomstig onderzoek. Er moet aandacht zijn voor diversiteit op meerdere niveaus en de interacties tussen die diversiteitsaspecten, bijvoorbeeld: verschillende geweldsvormen en dynamieken, culturele sensitiviteit, hulpaanbod in meerdere talen, taalniveau, seksuele oriëntatie, sekse en gender, fysieke en mentale beperkingen. Oog voor diversiteit in contexten, perspectieven, dynamieken en ervaringen is onmisbaar.

De eHealth interventie SAFE heeft veelbelovende resultaten laten zien in de ondersteuning van vrouwen die partnergeweld meemaken, specifiek voor bewustwording, erkenning en steun. SAFE kan de functie innemen van een laagdrempelig, informatief online platform dat kan dienen als opstap naar professionele *face-to-face* hulp. De interventie toont ook mogelijkheden om door professionals te worden ingezet voor, gelijktijdig met of na professionele hulp. Echter, aangezien online en in-persoon hulp voor (ex-)partnergeweld in Nederland zich nog niet in een geïntegreerd systeem bevinden, kan dit nog een uitdaging zijn. Desalniettemin zijn de ontwikkelingen in dit veld veelbelovend en we zullen ons best doen om bij te blijven dragen aan het optimaliseren van (online) hulp en steun aan slachtoffers van (ex-) partnergeweld. Wat betreft de toekomst van SAFE: we zullen deze online interventie verder ontwikkelen vanuit een intersectionele benadering. We hebben tevens als doel om SAFE onderdeel te laten zijn van de integrale strategie voor de aanpak van (ex-) partnergeweld in Nederland.



APPENDIX

Research data management

Ethics and privacy

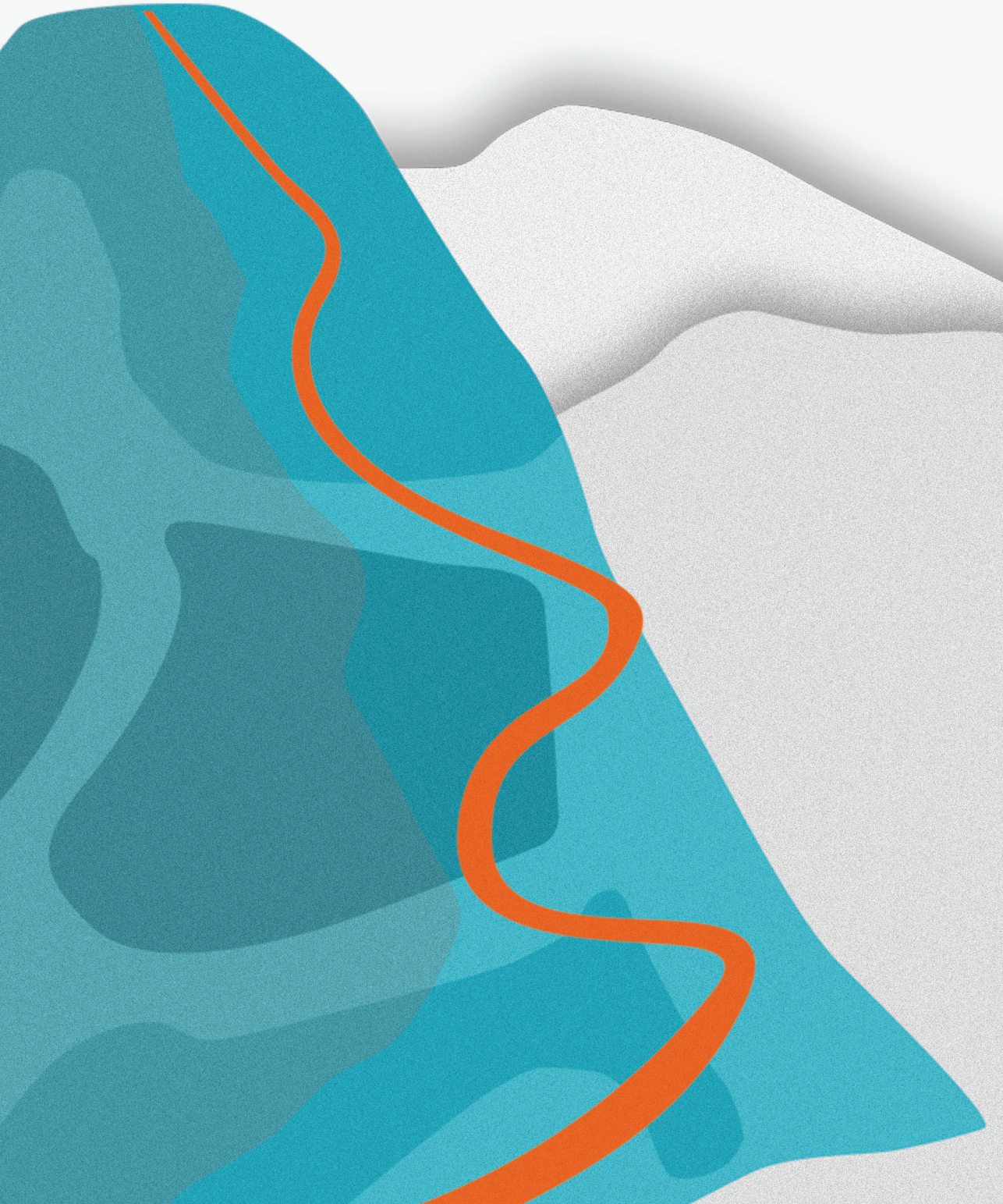
The studies in this thesis were all conducted in accordance with the principles of the Declaration of Helsinki and the General Data Protection Regulation (GDPR). The Medical Ethical Committee Radboud CMO Nijmegen granted their approval for the studies, including the data management plans (dossier numbers: 2017-3669 and 2018-5009). All participants received an information letter and gave either written or digital consent before participating in one or more of the studies. All data was either pseudonymized or anonymized for publication. An independent monitor was involved to check all study procedures.

Data collection and storage

Data collection for the interviews took place either in-person or online with the audio being recorded. Interview data was transcribed by project team members or by a professional transcription bureau (https://www.tekstuitschrijven.nl/) that has an agreement with the Radboudumc, including a non-disclosure agreement. In case of the latter, the data was transferred encrypted and secured via SURFfilesender. The survey data was all collected online through a secured system built by the eHealth developer that also designed and managed the SAFE platform. All data are securely stored in key file folders on a Radboudumc server and are only accessible to Radboudumc project members. All data were analyzed with SPSS or Atlas.ti.

Data sharing

Almost all studies were published open access and were published under a CC.BY.4.0 license. Requests from researchers to access the pseudonymized or anonymized data of these studies will first be checked by members of the project team and following the conditions stated in the original informed consent forms that were signed by the participants. The data will be securely stored at a Radboudumc server for at least 15 years. RIS and DANS EASY Archive were used to register and archive the (meta)data in interoperable and sustainable formats: https://doi.org/10.17026/dans-zs6-b8gz.



APPENDIX

List of publications

Upcoming

van Gelder, N., Sow, J., van Haalen, D., Schoorlemmer, I., Knol, M., Bouwer, E. & Oertelt-Prigione, S. (*under review*). Navigating online and in-person support: views and experiences from survivors of intimate partner violence and abuse.

Vermuë, P., van Gelder, N., van Hurk, L., & Oertelt-Prigione, S. (*under review*). The role of hairdressers in detecting and discussing domestic violence and abuse with their clients in the Netherlands.

2023

van Gelder, N. E., Ligthart, S. A., van Rosmalen-Nooijens, K. A. W. L., Prins, J. B., Oertelt-Prigione, S. (2023). Key factors in helpfulness and use of the SAFE intervention for women experiencing intimate partner violence and abuse: Qualitative outcomes from a randomized controlled trial and process evaluation. Journal of Medical Internet Research, 25, e42647. doi:10.2196/42647

van Gelder, N., Ligthart, S., van Rosmalen-Nooijens, K., Prins, J. & Oertelt-Prigione, S. (2023). Effectiveness of the SAFE eHealth intervention for women experiencing intimate partner violence and abuse: randomized controlled trial, quantitative process evaluation, and open feasibility study. Journal of Medical Internet Research. doi:10.2196/42641

2022

Elbelassy, A., van Gelder, N., Ligthart, S. & Oertelt-Prigione, S. (2022). Optimization of eHealth interventions for intimate partner violence and abuse: A qualitative study amongst Arabic-speaking migrant women. Journal of Advanced Nursing. doi:10.1111/jan.15437

van Gelder, N., Ligthart, S., Elzen, J., Prins, J., van Rosmalen-Nooijens, K. & Oertelt-Prigione, S. (2022). "If I'd Had Something Like SAFE at the Time, Maybe I Would've Left Him Sooner."—Essential Features of eHealth Interventions for Women Exposed to Intimate Partner Violence: A Qualitative Study. Journal of Interpersonal Violence, 37. doi:10.1177/08862605211036108

2021

van Gelder, N., Ligthart, S., Astro, L. & Oertelt-Prigione, S. (2021). Economic abuse amongst Dutch women (formerly) victimised by intimate partner violence and abuse: A mixed methods approach. Tijdschrift voor Genderstudies, 24. doi:10.5117/TVGN2021.2.002.VANG

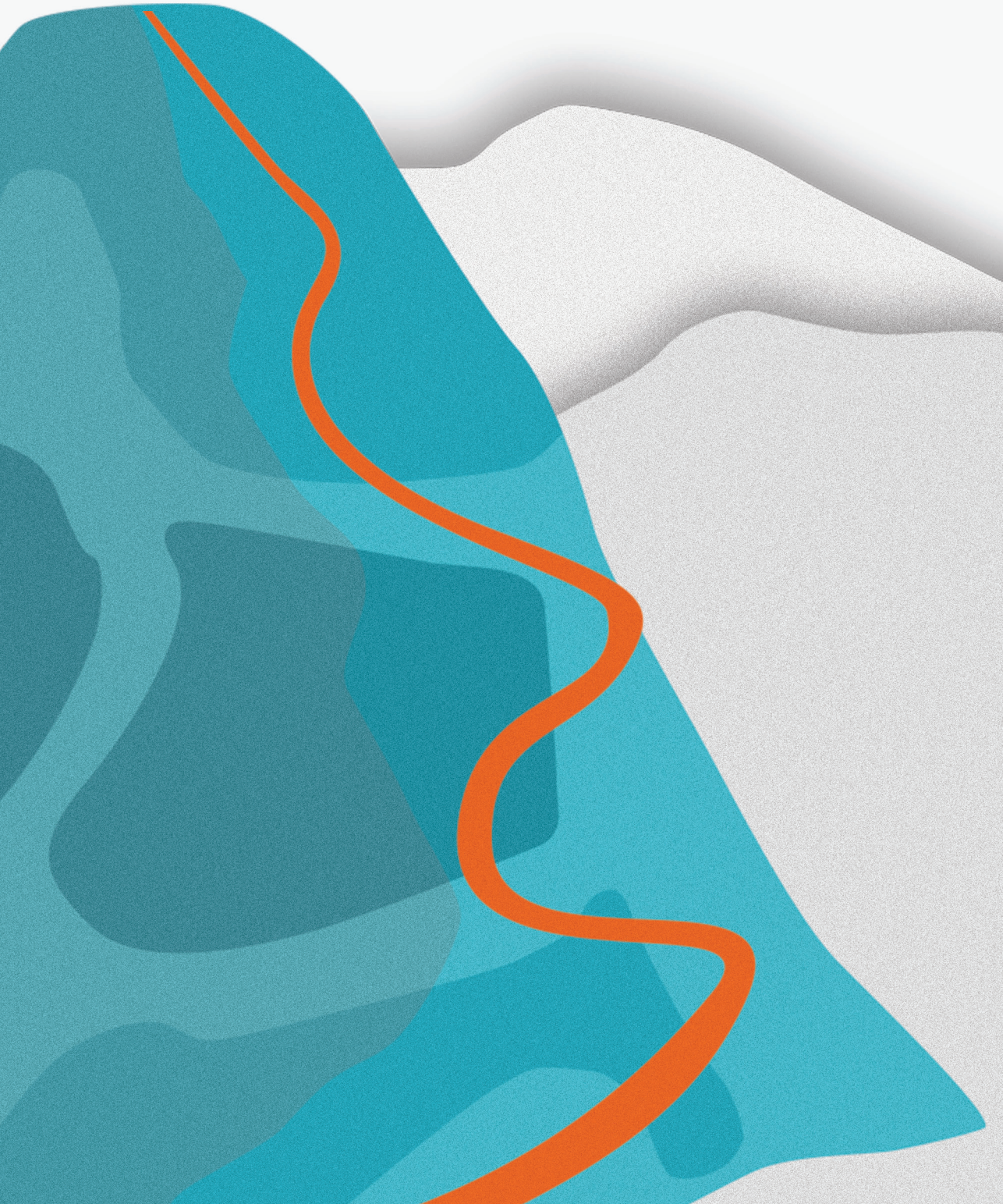
van Gelder, N., van Haalen, D., Ekker, K., Ligthart, S. & Oertelt-Prigione, S. (2021). Professionals' views on working in the field of domestic violence and abuse during the first wave of COVID-19: a qualitative study in the Netherlands. BMC Health Services Research, 21. doi:10.1186/s12913-021-06674-z

2020

van Gelder, N., van Rosmalen-Nooijens, K., Ligthart, S., Prins, J., Oertelt-Prigione, S. & Lagro-Janssen, A. (2020). SAFE: an eHealth intervention for women experiencing intimate partner violence – study protocol for a randomized controlled trial, process evaluation and open feasibility study. BMC Public Health, 20. doi:10.1186/s12889-020-08743-0

Peterman, A., Potts, A., O'Donnell, M., Thompson, K., Shah, N., Oertelt-Prigione, S. & van Gelder, N. (2020). Pandemics and Violence Against Women and Children. https://www.cgdev.org/publication/pandemics-and-violence-against-women-and-children

van Gelder, N., Peterman, A., Potts, A., O'Donnell, M., Thompson, K., Shah, N. & Oertelt-Prigione, S. (2020). COVID-19: Reducing the risk of infection might increase the risk of intimate partner violence. EClinicalMedicine, 21. doi:10.1016/j.eclinm.2020.100348



APPENDIX

Dankwoord

Dankwoord

Het dankwoord, steeds verschoof deze taak weer op mijn to-do lijst en vulde de plek zich direct op met een andere taak. Totdat ik me besefte dat het dankwoord helemaal geen taak op een to-do lijst is, het is een trip down memory lane, een moment om stil te staan bij de mensen die me hebben bijgestaan tijdens dit rollercoaster traject dat ik niet had willen missen.

Sabine, Suzanne, Judith, Karin – **Karin en Judith**, vanuit het Feel the ViBe project schreven jullie met een aantal anderen het subsidievoorstel voor SAFE en jullie kregen de gewenste subsidie toegewezen vanuit ZonMw. Zonder jullie was SAFE er überhaupt niet geweest zoals het er nu staat. Ik wil jullie enorm bedanken voor jullie inzet, steun en feedback. **Karin**, in het bijzonder bedankt voor de vroege dinsdagochtenden in Nijmegen, waar jij altijd klaar stond om me weer verder op weg te helpen. **Suzanne**, jij kwam in 2019 als copromotor bij dit project en ik heb ontzettend veel gehad aan jouw begeleiding. Ik heb veel van je geleerd en ben je erg dankbaar voor jouw steun, motivatie en warmte. Een gesprek met jou deed me altijd goed. En nogmaals bedankt dat we jouw huis mochten gebruiken om het filmpje over SAFE op te nemen ;) **Sabine**, van begin tot eind ben jij betrokken geweest bij alle onderzoeken die ik heb uitgevoerd vanuit het Radboudumc, ook buiten het SAFE project. Bedankt voor het vertrouwen en de vrijheid die je me hebt gegeven, voor alle begeleiding en voor het meedenken over de volgende stappen in mijn carrière. Ik herinner me nog dat je me een keer fearless noemde in een van onze kerst- / nieuwjaar gender colloquia en het duurde even voordat ik begreep wat je daar precies mee bedoelde, maar inmiddels begrijp ik het en heb ik het in mijn hart gesloten. Bedankt voor jouw bijdrage in mijn vorming als wetenschapper en als mens in de afgelopen jaren.

Riet, Anouk – **Anouk**, jij was betrokken in de opstartfase van dit project. Bedankt voor jouw ondersteuning en dat je mij op weg hebt geholpen toen alles nog nieuw was voor mij. **Riet**, wat was het ontzettend fijn om met jou samen te werken en ik vond het heel leuk om samen met jou de naamsbekendheid van SAFE te vergroten op de Dag van Zorg en Veiligheid. Heel veel dank voor jouw ondersteuning en harde werk.

Doreth, Toine – **Doreth**, je was aan het begin van dit traject een van mijn copromotoren en ik wil je bedanken voor jouw begeleiding in die tijd. Ik vond het ook heel leuk om onderwijs te kunnen geven bij het vak over huiselijk geweld dat jij coördineert, zelfs als dat alleen online kon vanwege de pandemie. **Toine**, je was geen lid van mijn promotiecommissie, maar dat voelde af en toe toch wel een beetje zo door jouw aanmoediging, bedankt!

Carine – bedankt voor jouw inzet en hulp bij dit project vanuit jouw rol als programmamanager bij ZonMw. ZonMw gaf ons de kans om SAFE te ontwikkelen en onderzoek te doen.

Reinier – veel dank voor de ondersteuning op het gebied van statistiek. Het is niet mijn forte en ik vond het heel fijn om bij jou terecht te kunnen met mijn vragen en check-dubbel-check of ik een bepaalde analyse echt correct had uitgevoerd en geïnterpreteerd.

Ronald, Pieter, Michael – **Ronald en Pieter**, bedankt dat jullie vanuit Ippo met ons op weg zijn gegaan om de SAFE interventie op te bouwen. Het heeft wat voeten in de aarde gehad, maar ik weet nog hoe blij ik was toen we op 1 april 2019 live gingen met de website en ik vind nog steeds dat we iets waardevols neer hebben gezet. **Michael**, jij hebt vanuit het Radboudumc het beheer van de website overgenomen. Ook dat had wat voeten in de aarde en ik wil je bedanken voor je geduld en hulp. De website wordt nog steeds veelvuldig gebruikt dus het was zeker de moeite waard om dit proces te doorlopen, het Radboudumc draagt zo nog iedere dag bij aan de ondersteuning van vrouwen die partnergeweld meemaken.

Maroeska – jij had eerder door dan ikzelf hoe gepassioneerd ik ben over onderzoek, met name op het gebied van huiselijk geweld. Nu ik dat zelf ook heb ontdekt, ben ik vastberaden om door te gaan op deze weg. Ik vond onze mentorgesprekken heel leerzaam en ging altijd weer met een goed gevoel weg na zo'n gesprek. Bedankt dat je mijn mentor was in de afgelopen jaren.

Gender colloquium: Sabine, Paula, Irene, Linda, Ilona, Aranka, Lori, Allaa, Kyra, Ditte en Jeyna – wat ben ik blij dat we onze gender club hadden gedurende mijn promotietraject en dat we nog steeds maandelijks samenkomen in ons gender colloquium. Het zorgde voor inspiratie, motivatie, ontspanning en steun, ik heb veel van jullie geleerd. Ik kom altijd met een goed gevoel uit onze bijeenkomsten en het hielp me ook op momenten dat ik aan het worstelen was. Jullie herinnerden me er regelmatig aan dat ik niet moest vergeten om de successen, hoe klein of groot ook, te vieren. Met sommige van jullie heb ik samen onderzoek gedaan (en **Sabine** jij bent daar natuurlijk steeds in betrokken geweest dus veel dank daarvoor!). **Allaa**, thank you for your hard work and I'm so happy that our study (which does not have its own chapter in this PhD thesis) contributed to knowledge on cultural sensitivity and on making the most essential parts of SAFE available in Arabic and English. **Ditte, Kyra en Jeyna**, jullie waren tijdelijk aangesloten bij onze gender colloquia en de onderzoeken waar wij samen aan hebben gewerkt (het COVID-19 onderzoek en het onderzoek naar het navigeren

van online en in-persoon hulp) staan niet in dit proefschrift, maar hebben zeker wel bijgedragen aan deze lijn van onderzoek. Ik vond het fijn om met jullie samen te werken, erg bedankt voor jullie inzet. **Paula en Lori**, ook het onderzoek onder kappers waar wij samen aan hebben gewerkt heeft geen apart hoofdstuk in dit proefschrift, maar ik heb met veel plezier met jullie samengewerkt. **Paula**, ik heb veel geleerd van jouw frisse blik op dit thema en heb veel bewondering voor jouw doorzettingsvermogen, heel erg bedankt en ik wens je heel veel plezier en succes met de PhD in Génève!

Stagiaires, student-assistenten – alle stagiaires en student-assistenten bij SAFE (**Arrantxa**, **Bente**, **Emmelien**, **Esmee**, **Huriye**, **Indy**, **Iris**, **Jet**, **Julia**, **Leslie**, **Lex**, **Lieke**) wil ik natuurlijk ook bedanken voor hun inzet. Het was heel leuk om jullie te begeleiden, daar heb ik veel van geleerd, en om jullie inzichten over dit onderzoek te horen. **Julia**, in het bijzonder nog bedankt voor jouw medewerking bij ons SAFE filmpje en voor de prachtige SAFE taart die je had gebakken! **Leslie**, aan jou in het bijzonder: ik vind het zo tof dat er een vriendschap is ontstaan tussen ons vanuit deze stage en ik ben dankbaar voor jouw steun en de gezellige brunchsessies.

Manuscriptcommissie – **Renée**, **Nicole**, **Anne**, **Majone**, **Jan** en **Tobias**, ontzettend bedankt voor de tijd die jullie hebben genomen om mijn proefschrift te lezen en deze op de dag van de verdediging met mij te bediscussiëren.

Pauline – bedankt dat je mij hebt begeleid in de mediawereld en me op weg hielp om media-aandacht te genereren voor SAFE en (ex-)partnergeweld. Ik herinner me nog goed dat we midden in de filmopnames zaten voor een filmpje over SAFE toen je zei dat RTL Nieuws nu tijd had om met ons te praten. En die keer dat ik net een paar dagen op vakantie was in Praag en ik 's ochtends vroeg een berichtje van je kreeg of ik toevallig tijd had voor een live radio-interview bij NPO Radio 1. Het komt altijd op de handigste momenten ;) Dankzij jou heb ik geleerd om zelfverzekerd om te gaan met de media en hoe ik met journalisten samen kan werken om aandacht te vragen voor en kennis te delen over (ex-)partnergeweld.

Ervaringsdeskundigen, professionals, collega's in het veld, wetenschappers, beleidsadviseurs, politici, journalisten – ik heb in de afgelopen jaren enorm veel mensen leren kennen die zich op een of andere manier inzetten op het gebied van huiselijk geweld, (ex-)partnergeweld, partnerdoding, gender-gerelateerd geweld, femicide en / of geweld tegen vrouwen. Veel dank aan jullie voor jullie inzet, in het bijzonder aan de mensen die hebben geparticipeerd in de onderzoeken, en dat jullie de tijd namen om met mij in gesprek te gaan in uiteenlopende contexten. Bedankt voor de samenwerkingen en voor de steun en motivatie!

Evelien, Mariska – bedankt voor jullie creativiteit en het prachtige ontwerp van dit proefschrift.

Collega's van het Kennisinstituut bij Slachtofferhulp Nederland – lieve collega's van het Kennisinstituut bij Slachtofferhulp Nederland, in het bijzonder **Iris** en **Hester** als collega's in de wereld van de wetenschap: veel dank voor jullie interesse en steun rondom het laatste gedeelte van mijn promotietraject. Jullie zullen wel gedacht hebben 'hoe lang gaat het nou nog duren en wat vreet deze meid nou eigenlijk precies uit bij het Radboud?', maar hier zijn we dan toch ;) Ik vind het heel fijn dat ik mijn ervaring in de wetenschap en mijn expertise op het gebied van huiselijk geweld in kan zetten bij Slachtofferhulp Nederland en dat het werk bij Slachtofferhulp Nederland ook weer mijn werk bij het Radboudumc voedt.

Alex – we leerden elkaar kennen terwijl ik net een paar maanden begonnen was met mijn promotietraject. Jij was al gepromoveerd en jouw begrip van hoe intens zo'n traject is, was enorm welkom. Jij was degene die me weer geruststelde als ik gestrest was, die me liet lachen, die voor me zorgde en die mijn successen, inclusief die als 'radioster' ;), met me vierde. Bedankt voor je steun, zowel in onze eerdere relatie als nu in onze vriendschap.

Anne, Lieselot – maatschappelijke opvoedingsvraagstukken hebben ons bij elkaar gebracht en nog steeds houden we ons allemaal bezig met maatschappelijke vraagstukken. Ik denk nog steeds met een glimlach terug aan onze studietrip naar Londen en 'the countryside' destijds. Ook denk ik met veel plezier terug aan onze vakantie in Genua, waar jullie getuige waren van een zeldzaam moment: Nicole die spontaan, maar niet per se goed ;), met volslagen vreemden meedanst op de muziek van straatmuzikanten. Nog regelmatig zien we elkaar als 'lunchclub' in Haarlem, Amsterdam of Utrecht, en ons bezoek aan de World Press Photo Exhibition lijkt inmiddels een jaarlijkse traditie te zijn. Ik ben blij dat onze samenwerking tijdens de studie is uitgegroeid tot de mooie vriendschap die het nu is.

Cindy – wat ben ik blij dat wij elkaar hebben leren kennen. De ACU avonden en fancy Fridays hebben de laatste jaren vooral plaatsgemaakt voor lunch en De Molen, maar "je mag me altijd bellen, ook om 2 uur 's nachts" geldt nog steeds. Het maakt niet uit of je hier in Utrecht woont of in Groningen, de vriendschap wordt er niet minder om en de lengte van de voiceberichten ook niet ;) Jij was erbij toen ik mijn (vooralsnog eerste en enige, maar wie weet..) tattoo liet zetten, een symbool dat een speciale betekenis heeft voor mij. Je bent er altijd voor me en daar ben ik je enorm dankbaar voor.

Guillaume, David – hadden jullie zo'n 18 jaar geleden gedacht dat ik hier ooit zou staan? Ik zeker niet haha Lieve David en Guillaume, wat ben ik blij met onze vriendschap en met dat we al zo lang in elkaars leven zijn. Ik kan met jullie lachen en huilen, ik weet dat ik altijd op jullie kan rekenen. We kunnen diepgaande gesprekken voeren, maar ook naar leuke feestjes gaan en goed gebruik maken van onze Cineville abonnementen. Ik zeg nog altijd dat ik met 'de jongens' heb afgesproken als ik wat met jullie ga doen. Als ik dat in mijn agenda zet, dan staat het onder D&G: wat dan niet staat voor Dolce & Gabbana; jullie zijn voor mij écht van onschatbare waarde. Bedankt jongens, voor alles.

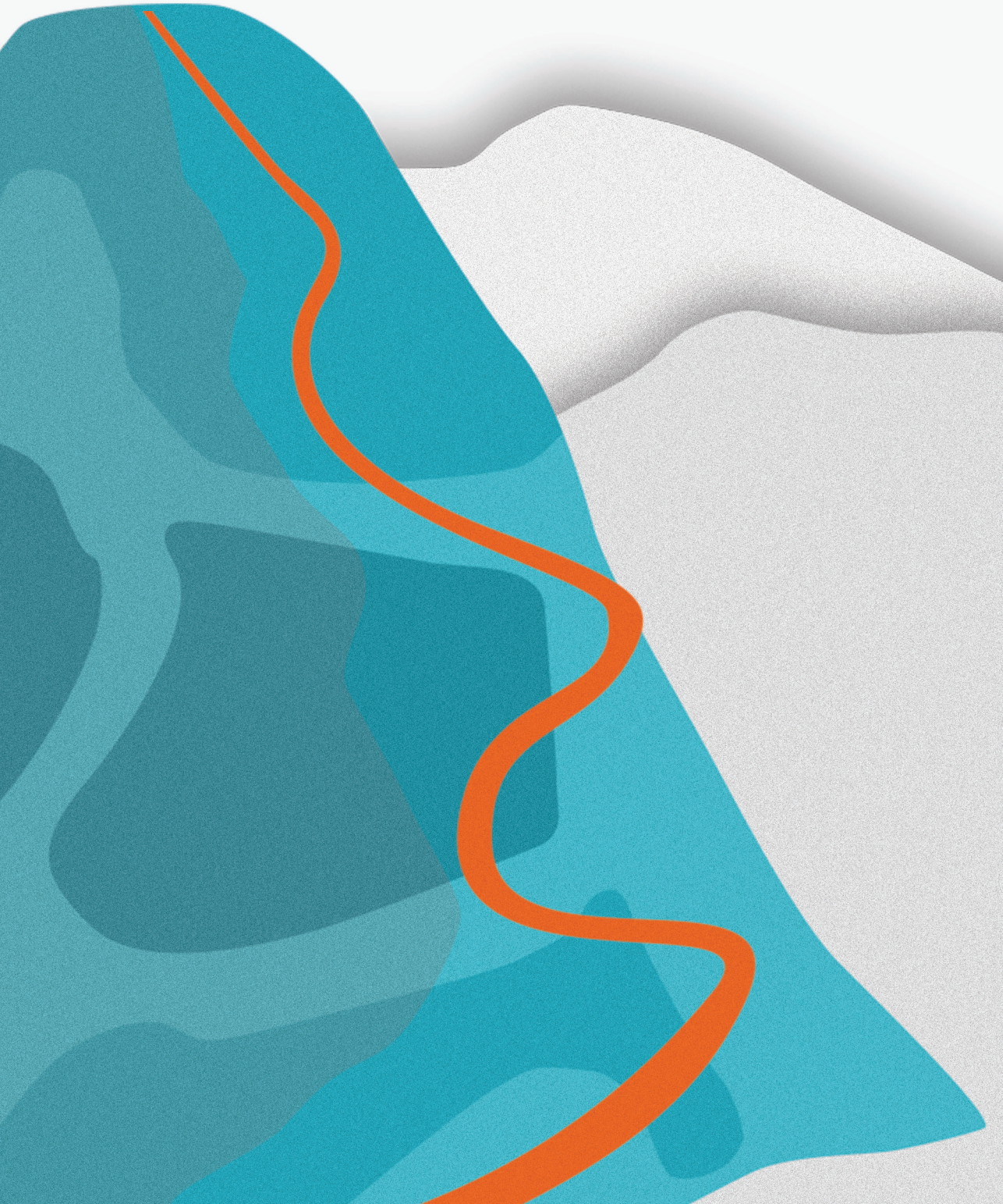
Pap, mam – ontzettend bedankt voor jullie steun en aanmoediging de afgelopen jaren. Ik kan altijd op een warm welkom rekenen bij jullie thuis, met soms letterlijk een warm bad ;) Met regelmaat kreeg ik ook een lief kaartje van jullie met aanmoedigingen en soms met de boodschap 'niet vergeten om jezelf niet te vergeten', een welkom geheugensteuntje. Ik weet dat jullie je zorgen hebben gehad, maar dat jullie ook heel trots op me zijn. Jullie betrokkenheid betekent veel voor me, ik hou van jullie.

Vincent, Els, Emma, Lotte en Suze – wat is het fijn om tijd met jullie door te brengen en te genieten van hoe Emma, Lotte en Suze opgroeien met al hun capriolen. Heel erg bedankt voor jullie steun en interesse in de afgelopen jaren, ik hou van jullie. **Vincent**, als jij me niet de tip had gegeven om mijn cv eens op te sturen naar ELG, waar jij toen jouw promotietraject en huisartsopleiding deed, was ik überhaupt niet op deze plek terechtgekomen. Als grote broer ben je een soort paranimf in mijn leven, iemand op wie ik kan rekenen, die achter me staat en die me bij staat; ik ben blij dat je ook tijdens mijn verdediging deze rol op je neemt.

Nadine – mijn andere paranimf, ook gedurende mijn leven als mijn grote zus. Het maakt niet uit of je in Lissabon of Münster woont of, zoals nu, 5 minuten fietsen van mijn huis in Utrecht, we zorgen er altijd voor dat we elkaar regelmatig zien om allerlei leuke dingen te ondernemen. Naar festivals, concerten, musea, de (buiten)bios, op stedentrips, paardrijden, pottenbakken, een proefles drummen, onze jaarlijkse traditie om naar de polopicknick in Münster te gaan; het maakt niet uit wat we doen, we vermaken ons altijd wel. Enorm bedankt dat je er altijd voor me bent en voor je steun op zoveel manieren, ik hou van jou.

Mijn laatste woord van dank richt ik aan alle vrouwen die mee hebben gedaan aan de onderzoeken van SAFE. Bedankt dat jullie mij en de rest van het team dit vertrouwen hebben gegeven en dat jullie het aandurfden om jullie ervaringen te delen met ons. Sommige van jullie heb ik in persoon of online gesproken, bij sommige van jullie

ben ik zelfs thuis geweest, en andere vrouwen zijn compleet anoniem gebleven. Stuk voor stuk hebben jullie een zeer waardevolle bijdrage geleverd aan een betere ondersteuning aan vrouwen die (ex-)partnergeweld meemaken en ik hoop dat SAFE ook iets positiefs voor jullie heeft kunnen betekenen. Ik wens jullie alle goeds.



APPENDIX

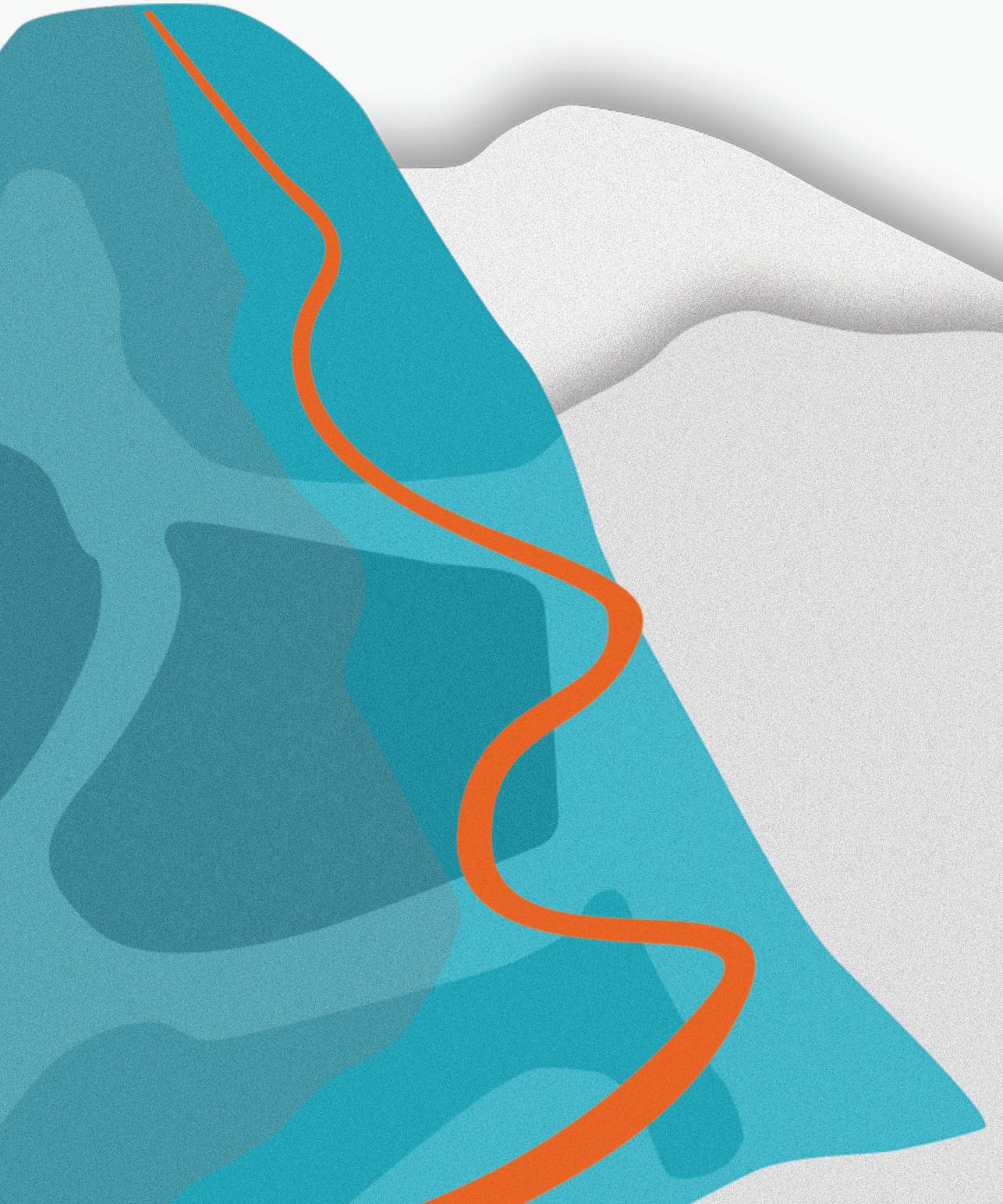
About the author

About the author

Nicole Elisabeth van Gelder was born on 31 March 1990 in Rhenen, the Netherlands. She began studying pedagogy at the University of Applied Sciences Utrecht in 2008 and switched to pedagogical sciences at Utrecht University in 2010. During her last university bachelor year, Nicole started working as a counselor for children, adolescents, and young adults. She continued with the master Clinical Child, Family and Education Studies in 2014–2015 and completed the master Education, Socialization and Youth Policies in 2016 at Utrecht University. During her studies, she conducted internships at a primary school, secondary school, youth center, the Netherlands Youth Institute, and Utrecht University. After obtaining her master's degree and next to her counseling job, Nicole started working as a project and research assistant for various employers, for example the Child Research Center in Utrecht.

In 2018, Nicole started her PhD research on a self-support eHealth intervention (SAFE) for women who experience intimate partner violence and abuse (IPVA), at the Department of Primary and Community Care at the Radboudumc in Nijmegen. During her PhD trajectory, she conducted various additional studies on domestic violence, IPVA and online support. She is also a member of the Dutch researchers network on IPVA (*Onderzoekersnetwerk Partnergeweld*) and of the Dutch knowledge network on victimology (*Kennisnetwerk Victimologie in Nederland*). Furthermore, Nicole and her team ran an IPVA awareness campaign at the Radboud University and Radboudumc in 2021 during the global campaign on violence against women: Orange the World. Quotes from women survivors of IPVA (in Dutch, English, and Arabic) were projected on screens in the campus buildings. Simultaneously, Nicole and her team expanded SAFE's outreach by translating the essential information of the intervention into English and Arabic. Last, she contributed to creating awareness on the various types and dynamics of IPVA and the possibilities of online support through engaging with laymen, survivors, (future) professionals, policy advisors, journalists, politicians, and fellow researchers. She also presented the SAFE study at the European Conference on Domestic Violence in Oslo (2019) and Reykjavík (2023). Nicole and her team at the Radboudumc are now (November 2023) finishing a study on the role of hairdressers in combatting domestic violence and abuse (DVA). In September 2023, Nicole and her team started a study on the regional professional help system and ambulatory care in DVA situations, working together with *Kadera Aanpak Huiselijk Geweld*. Nicole is also involved in translating the Post-separation Economic Abuse Wheel into Dutch.

Furthermore, since July 2022 Nicole works as a researcher at Victim Support Netherlands (*Slachtofferhulp Nederland*) where she takes on a broad range of themes within victimology, working on national and EU research projects. For example, on victims' rights, costs and benefits of victimization and victim support, online victimization, domestic violence, sexual violence, and gender-sensitive support. She also co-organized the Victimology Summer School 2023 on online victimization. Nicole is also involved in establishing the Victim Support Netherlands panel for scientific research and conducting the Life Domains study, focusing on the long term impact of victimization on various life domains.



APPENDIX

Portfolio

Portfolio

Department:	**Department of Primary and Community Care, Research Institute for Medical Innovation**
PhD period:	**08/01/2018 – 30/06/2023**
PhD Supervisor(s):	**prof. dr. S. Oertelt-Prigione, prof. dr. J.B. Prins**
PhD Co-supervisor(s):	**dr. S.A. Ligthart, dr. K.A.W.L. van Rosmalen-Nooijens**

Training activities	**Hours**
Courses	
- E-learning Veilig Werken (2018)	1.00
- Workshop ZonMw 'Optimaal effect van mijn project' (2018)	6.00
- Atlas.ti voor beginners (2018)	16.00
- RU - Qualitative Research Methods and Analysis (2018)	84.00
- RIHS - Introduction course for PhD candidates (2018)	15.00
- RU - Projectmanagement voor Promovendi (2018)	56.00
- Online scholing - docenten MBO en HBO: Lesgeven over geweld in afhankelijkheidsrelaties (2019)	1.00
- E-learning Veilig Werken (2019)	1.00
- E-learning ziekenhuismedewerkers: Kindcheck (2019)	1.00
- E-learning ziekenhuismedewerkers: omgaan met vermoedens van kindermishandeling (2019)	2.00
- Radboudumc - Introduction day (2019)	6.00
- E-learning: Praten over huiselijk geweld kun je leren (2019)	1.00
- E-learning ziekenhuismedewerkers: werken met de meldcode (2019)	1.50
- RU - Education in a Nutshell (2019)	28.00
- Radboudumc - Scientific integrity (2019)	20.00
- Introductie Nijmeegse Curricula (2019)	4.00
- Radboudumc - eBROK course (for Radboudumc researchers working with human subjects) (2019)	26.00
- RU - Statistics for PhD's by using SPSS (2019)	56.00
- E-learning Veilig Werken (2020)	1.00
- Radboud Talks trainingen (2020)	9.50
- Online cursus: suïcidepreventie (2020)	1.00
- Online cursus: communiceren over geweld (2020)	1.00
- RU - Analytic Storytelling (2020)	28.00
- Webinar: Violence against women and girls before, during and after COVID (2020)	1.75

Training activities	Hours
- RU - Science Journalism and Communication (2020)	80.00
- RU - The Art of Finishing Up (2020)	28.00
- RU - Grant Writing and Presenting for Funding Committees (2020)	28.00
- E-learning Veilig Werken (2021)	1.00
- Cursus 'Basistraining mannenhulpverlening – geweld in afhankelijkheidsrelaties' (2021)	7.00
- ZonMw masterclass Ervaringsdeskundigheid (2021)	4.00
- E-learning Veilig Werken (2021)	1.00
- E-learning Veilig Werken (2022)	1.00
Seminars	
- Expertmeeting VN Vrouwenverdrag en Eergerelateerd geweld (2018)	3.00
- RadboudReflects: #metoo op de campus? (2018)	0.75
- Discussion & Drinks: open access (2018)	1.50
- Discussion & Drinks: sex- and gender-sensitive medicine (2018)	1.00
- Radboudumc Netwerk eHealth (2018)	3.00
- Lezing Omgaan met ongewenst gedrag #notme (2018)	1.50
- Webinar Verbeterde meldcode (2018)	1.50
- ELG refereerbijeenkomst 'How medicine discovered sex' (2018)	1.00
- Webinar 'Hoe houd je zorg op afstand persoonlijk?' (2019)	0.75
- Webinar 'eHealth en digitalisering in de huisartsenpraktijk' (2019)	1.00
- Webinar '6 stappen voor meer impact met eHealth' (2019)	1.00
- Online seminar 'Technology-facilitated gender-based violence: Disrupting its impact on our public and private lives' (2019)	1.50
- Bijeenkomst m.b.t. narcisme en psychisch geweld (2019; present at information market)	5.00
- Voorlichtingsavond huiselijk geweld in Gouda (2019; oral presentation)	4.00
- RadboudReflects: Een goede relatie, hoe doe je dat? (2019)	1.50
- Interactive workshop for pedagogy students at Utrecht University (2019; oral presentation)	5.00
- Presentatie over SAFE voor wijkteam Hatert (2020; oral presentation)	2.00
- Workshop on intimate partner violence on HAN International Week (2020; oral presentation)	4.50
- Bijeenkomst Huiselijke spanningen voor vrouwen met een moslimachtergrond (2020; oral presentation)	9.00

Training activities	Hours
- Facultaire LoopbaanOriëntatie Dag Universiteit Leiden (2020; oral presentation)	4.50
- Regioplan Kenniskamer huiselijk geweld en kindermishandeling (2020)	1.00
- Webinar: Stad in spagaat – Een veilig thuis (2020)	1.00
- Webinar: Huisdieren, geweld en corona? (2020)	1.00
- Webinar: Helping Them Stay Sane: How to Help Someone Victimized by Coercive Control (2020)	1.00
- Webinar ADHD en partnergeweld (2020)	0.75
- Online expertmeeting: Partnergeweld onder jongvolwassenen - een onderbelicht probleem (2020)	1.50
- Webinar: Zorg over Huiselijk geweld in Coronatijd (2020)	1.00
- Webinar: Domestic and family violence and intimate partner violence in LGBTQ relationships (2020)	1.00
- Webinar: Gender Based Violence and Migration in Times of Covid-19. Perspectives from across the Globe (2020)	1.50
- Online openingsconferentie Reach Out (2020)	1.50
- Webinar: Violence Against Women and Girls, Intersectionality and COVID-19 (2020)	1.50
- Webinar: #LetsTalkAboutYES (2020)	1.50
- Webinar: Jackson Katz (2020)	1.50
- ELG Refereerbijeenkomst: Wanneer is het genoeg? Datasaturatie binnen kwalitatief onderzoek. (2020)	1.00
- Studium Generale Universiteit Utrecht: Waarom is geweld tegen vrouwen zo'n hardnekkig probleem? (2020)	1.50
- Webinar Science & communication: social media for scientists (2020)	1.00
- ELG refereerbijeenkomst m.b.t. SAFE project (2020; oral presentation)	3.00
- Webinar gendersensitief werken (2020)	1.00
- Online talkshow over huiselijk geweld en kindermishandeling (2020)	1.25
- Yves Saint Laurent – Abuse is not love; online presentatie (2020)	1.00
- Online workshop huiselijk geweld (2020; oral presentation)	4.25
- Webinar 'Mental health and wellbeing during Covid-19' (2021)	1.00
- Online presentatie partnergeweld Soroptimisten Isalania Zwolle-Kampen (2021; oral presentation)	2.75
- Online bijeenkomst Gender en GGZ (2021)	2.00

Training activities	Hours
- ELG refereerbijeenkomst m.b.t. kwalitatieve analysetechnieken (2021)	1.00
- Gender values and Muslim migrants: Effects of Religiosity and Acculturation (2021)	1.00
- ELG refereerbijeenkomst: Realist research: theorie-gedreven benadering voor onderzoek naar complexe interventies (2021)	1.00
- Webinar 'Lancering Digitaal Scheidingsloket Centraal Gelderland' (2021)	1.00
- Online presentatie 'Handboek Samen Sterker tegen HGKM' (2021)	1.50
- Honours event 'Kunnen vrouwen blind vertrouwen?' (2021)	2.50
- WHO presentatie 'New global VAW prevalence estimates' (2021)	1.50
- Seminar 'Gender based violence' (2021; oral presentation)	5.00
- Bijeenkomst 'Nazorg bij partnergeweld' (2021; oral presentation)	8.00
- Presentatie PROTECT sleutelpersonen (2021; oral presentation)	5.00
- Bijeenkomst regio Nijmegen, cultuursensitief werken (2021)	2.00
- ELG refereerbijeenkomst Gender-sensitief gezondheidswetenschappelijk onderzoek (2021)	1.00
- Bijeenkomst: lancering van het actieplan Nationaal Coördinator Geweld tegen Vrouwen (2021)	1.50
- REACH OUT Project – Closing Event (2021)	4.50
- Bijeenkomst Onderzoekersnetwerk Partnergeweld (2021; oral presentation)	2.50
- Online bijeenkomst 'Hulpverlening bij geweld onder LHBTI+ gemeenschap' (2021)	1.50
- Shakti bijeenkomst over partnergeweld (2021; oral presentation)	2.00
- Expertmeeting: de winst van digitale inclusie (2021)	2.00
- Combating violence against women in a digital age - utilising the Istanbul Convention (2021)	2.00
- Online grensoverschrijdend gedrag: Seks(e) en het Internet (2021)	3.00
- A New Global Norm on Violence Against Women (2021)	1.50
- Webinar Relatiewijs (2021)	2.00
- Webinar Digitaal Partnergeweld (2022)	1.50
- Workshops geven bij International Week van Hogeschool Arnhem Nijmegen (2022; oral presentation)	4.00
- Presentatie geven over economisch (ex-)partnergeweld (2022; oral presentation)	3.00
- Presentatie geven over seksueel (ex-)partnergeweld (2022; oral presentation)	4.00

Training activities	Hours
- Expert webinar Gendersensitiviteit & Aanpak 'Stop Geweld tegen Vrouwen & Meisjes' (2023)	2.00
- Expertmeeting femicide (2023; expert participant)	3.00
- Presentatie geven over seksueel (ex-)partnergeweld (2023; oral presentation)	6.00
Conferences	
- Congres 'Grip op geweld' (2018)	5.00
- Symposium Partnergeweld (2018; oral presentation)	5.00
- Annual CaRe Days 2018 (2018)	15.00
- ELG onderzoekssymposium e-health (2018)	4.00
- Slotmanifestatie NFU programma e-health (2018)	7.00
- Congres 'Voorbij de grens' (2019)	5.00
- Dag van Zorg en Veiligheid (2019; present at information market)	8.00
- NHG Wetenschapsdag (2019; poster presentation)	3.00
- Symposium 'De specialist huiselijk geweld' (2019)	4.50
- European Conference on Domestic Violence (2019; oral presentation)	36.00
- Congres 'De voortdurende actualiteit van eergerelateerd geweld' (2019; present at information market)	6.00
- Symposium Landelijke Vakgroep Aandachtsfunctionarissen Kindermishandeling (2019; present at information market)	8.00
- Congres 'Sociale normverandering onder jongeren ter preventie geweld: naar een positieve benadering' (2019)	4.00
- Symposium on Harassment in Academia (2020)	3.00
- Bessensap 2020 (2020)	3.00
- Online congres Nederlandse Vereniging voor Criminologie (2020)	2.00
- WAVE online conference – Structural inequality: the root of the global pandemic of violence against women (2020)	4.00
- Jaarcongres Huiselijk Geweld (2020; oral presentation)	14.00
- Congres Victim blaming bij geweldslachtoffers (2020; oral presentation)	14.00
- Impact 2021 (2021)	3.00
- Perinatal Mental Health Meeting (2021; oral presentation)	2.00
- European Conference on Domestic Violence (2021; oral presentation)	32.00
- Bijeenkomst Onderzoekersnetwerk Partnergeweld (2022; oral presentation)	4.00
- Symposium en boekpresentatie 'Geweld in de levensloop' (2022)	5.00

Training activities	Hours
- Symposium 'De randen van de victimologie' (2023)	7.50
- Startbijeenkomst project SAMEN (2023)	2.50
- Boekpresentatie en seminar 'What Works: effectieve ondersteuning van slachtoffers' (2023)	4.00
- Symposium 'Stay Home, Stay Safe? Wat weten we nu over huiselijk geweld tijdens de coronacrisis?' (2023; oral presentation)	5.00
- Valente Verbindingsdag (2023; oral presentation)	6.00
Other	
- Expositie #Zie (2018)	0.50
- RIHS open dag: 'Teken je eigen wetenschapper' experiment (2019)	9.00
- Nationale GezondheidsBeurs (2020)	18.00
- Panelgesprek i.v.m. internationale vrouwendag en vertoning documentaire Quienés somos ahora (2020; panel participant)	3.50
- Career Night FSW Universiteit Utrecht (2021; oral presentation)	3.00
- Refereerbijeenkomst ELG: Sekse- en gender-sensitieve geneeskunde curriculum (2022)	1.00
- Personal Grant Info Meeting (2022)	2.00
- Twitteraccount NL_Wetenschap overnemen (2022)	6.00
- Documentaire 'Belaagd' en nabespreking (2022)	3.00
- Presentatie geven (intern bij Kadera) over Kadera x SAFE studie (2023; oral presentation)	4.00
- Gender colloquium meetings (2018 - 2023)	80.00
Teaching activities	
Lecturing	
- Lecture 'De rol van de huisarts bij bedreigde thuissituaties' (2018)	5.00
- Lecture 'De rol van de huisarts bij bedreigde thuissituaties' (2018)	5.00
- Meet your PhD (2020)	10.00
- Lecture on intimate partner violence (cursus Familiaal Geweld) (2020)	3.00
- Lecture on intimate partner violence (cursus Familiaal Geweld) (2021)	5.00
- Lecture on intimate partner violence (cursus Familiaal Geweld) (2022)	5.00

Teaching activities	Hours
Supervision of internships / other	
- Internship supervision 1 (2019)	40.00
- Internship supervision 2 (2020)	50.00
- Internship supervision 3 (2020)	30.00
- Internship supervision 4 (2021)	40.00
- Internship supervision 5 (2021)	40.00
- Internship supervision 6 (2021)	50.00
- Internship supervision 7 (2021)	34.00
Total	**1,357.25**