PSYCHOLOGICAL CARE FOR VICTIMS OF RECENT RAPE

An exploration of early intervention for reducing the risk of PTSD

MILOU COVERS

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ISBN: 978-94-6483-461-1
DOI: https://doi.org/10.33540/776
Layout and design: Marilou Maes | www.persoonlijkproefschrift.nl
Printing: Ridderprint | www.ridderprint.nl

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Psychologische zorg voor slachtoffers van een recente verkrachting

(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor aan de
Universiteit Utrecht
op gezag van de
rector magnificus, prof.dr. H.R.B.M. Kummeling,
ingevolge het besluit van het college voor promoties
in het openbaar te verdedigen op

vrijdag 10 november 2023 des middags te 2.15 uur

door

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geboren op 12 april 1992
te Bergen op Zoom

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Dit proefschrift werd (mede) mogelijk gemaakt met financiële steun van Stichting Achmea Slachtoffer en Samenleving, Innovatiefonds Zorgverzekeraars, Vereniging EMDR Nederland, het PAOS fonds en EMDR Europe.

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CHAPTER 1

INTRODUCTION

Most people experience one or more traumatic events in their lifetime (Kessler et al., 2017). A common traumatic event is sexual assault[1], which is defined as any act of a sexual nature that is forced upon a person without their consent. The force that is used can be physical or non-physical force, such as manipulation, intimidation, or the abuse of a victim's inability to say no. In all its forms, sexual assault is a violation of the victim's freedom, safety, and self-determination. Sexual assault is prevalent: A large-scale population study among 17,000 Dutch adults found that 19% of women and 4% of men had experienced sexual assault (De Graaf & Wijsen, 2017). In a similar study among 20,000 Dutch adolescents between 12 and 25 years old, 11% of girls and 2% of boys reported having experienced sexual assault (De Graaf et al., 2017).

This thesis refers to those who have experienced sexual assault as *victims*. It is of note that the term *survivors of sexual assault* has become increasingly popular as an alternative to *victims*. Research shows that this term has more positive connotations, such as strength and courage, whereas *victim* has more negative connotations, including weakness and passivity (Papendick & Bohner, 2017). Yet, in clinical psychology and research, the term *victim* is more commonly used to identify members and non-members of populations, in this case, those who have been victimized by sexual assault and those who have not. As such, the term *victim* is used in this thesis as a descriptor of the population that is studied.

Risk factors for sexual assault

Research has aimed to identify those who are most at risk for sexual victimization. For example, in the afore mentioned population study the odds of sexual victimization have been found to be 4.3 times higher for women, 2.0 times higher for people with mental health problems, 2.1 times higher for people with physical health problems, 2.5 times higher for people with sexual health problems, and 1.3 times higher for those who had experienced adverse events in childhood (De Graaf & Wijsen, 2017). In a study among American women, prior sexual victimization was the strongest predictors of rape victimization, as women who had experienced sexual assault before entering the study were 7.1 times more likely to be victimized again two years later (Acierno et al., 1999). Additionally, women with major depression disorder were 2.2 times more likely to experience sexual assault during these two years. Prior experiences with interpersonal trauma were also found to increase the risk of sexual assault in both female and male college students, while greater levels of social support reduced this risk (Conley et al., 2016). In summary, the vulnerability caused by mental health and interpersonal

1 When referring to all forms of sexual contact without consent, this dissertation will use the term *sexual assault*. The term *rape* is used when referring to sexual assault with penetration.

trauma puts people, and especially women, at risk for sexual assault. Nonetheless, it is important to underline that sexual assault can happen to any person.

Consequences of sexual assault

Sexual assault affects a victim's mental health, as victims of sexual assault are at an increased risk for developing a variety of mental health conditions, including depression, substance abuse disorders, sexual dysfunction, and post-traumatic stress disorder (PTSD; Tiihonen Möller et al., 2014; Ullman et al., 2013). PTSD is particularly prevalent following sexual assault, with research indicating that 30 to 50% of victims develop this disorder within three months following the assault (Tiihönen Möller et al., 2014; Elklit & Christiansen, 2010; Steenkamp et al., 2012). These odds are significantly higher for victims of sexual assault than for victims of any other type of trauma (Kessler et al., 2017; Knipscheer et al., 2020). PTSD is characterized by four symptom clusters (American Psychiatric Association[APA], 2013):

1. Intrusive and involuntary memories, dreams, and flashbacks, or intense psychological or physical reaction when exposed to triggers related to the assault.
2. Avoidance of these triggers, which may include people, places, feelings and thoughts.
3. Negative moods and cognitions. Negative moods include persisting feelings of fear, anger or sadness, and the inability to feel positive emotions. Negative cognitions may reflect the world ('the world is dangerous'), others ('no-one can be trusted') or the self ('I am a bad person').
4. Changes in reactivity and arousal, which may manifest in feeling agitated, being excessively alert, or difficulties with concentration and sleep. This can also include self-destructive behaviour.

PTSD can also be accompanied by symptoms of dissociation (i.e., derealisation and depersonalisation), a phenomenon classified within the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013) as the dissociative subtype of PTSD. In addition to these debilitating symptoms, PTSD increases the risk for other mental health problems, including depression, substance abuse, and suicidality (Galatzer-Levy et al., 2013). Additionally, PTSD is associated with physical problems. Research has shown that PTSD is related to changes in the bodily stress response system, which affects immune function and the central nervous system, causing somatic problems such as chronic pain and cardiovascular disease (Gupta, 2013). Also, the PTSD related changes in stress responding may explain the high rate of sexual dysfunction in victims of sexual assault (Yehuda et al., 2015). While PTSD is a prevalent psychological disorder with high comorbidity, little is known about protective and risk factors for the development of the disorder.

Sexual assault also directly affects the victim's physical health, as victims are at risk of contracting a sexually transmitted infection, including HIV and Hepatitis B (Van Rooijen et al., 2018), as well as anogenital injury and general body trauma (Sugar et al., 2004). Additionally, female victims risk unwanted pregnancy.

In addition to the physical and psychological harm, victims of sexual assault face societal judgement and victim-blaming. Generally, this is caused by *rape myths* that discredit victims by blaming them or denying the occurrence of sexual assault (Edwards et al., 2011). For example, a common rape myth is that rape is only perpetrated by strangers, while in reality, victims are most likely to be assaulted by someone they know (Bicanic et al., 2014). Such rape myths can result in the misidentification of sexual assault (e.g., 'sexual assault that is perpetrated by a non-stranger is not sexual assault') and victims (e.g., victims of incest, intimate partner violence, or date-rape), which hinders prosecution and victim care (Griffin et al., 2021). Moreover, these negative reactions to sexual assault have been found to impair the mental recovery of victims (Orchowski & Gidycz, 2015).

In sum, after experiencing sexual assault, victims are confronted with physical and psychological harm as well as public blame and scepticism, which in turn increases psychological harm.

Multidisciplinary approach after sexual assault

Considering the risks associated with sexual assault, access to immediate medical and psychological services, as well as the opportunity to collect forensic evidence, are crucial. In the Netherlands, these services are organised by 16 Sexual Assault Centres (SAC). Before these centres were established, victims needed to seek out help from different agencies. This reduced their changes of receiving full spectrum care. Instead, the SAC provides multidisciplinary care for victims of recent sexual assault by combining three services: medical care that aims to treat and prevent physical harm, forensic services that aim to collect evidence, and psychological care that aims to monitor the development of mental health problems and reduce the impact of victim-blaming. The psychological services are provided for one month after the assault, because PTSD can be diagnosed when symptoms persist during one month. Victims who develop PTSD (or other mental health conditions) can be referred for treatment after this month. Although the SAC is open to all victims, the services are currently primarily used by female victims.

Treatment after sexual assault

Current guidelines for PTSD treatment recommend two evidence-based treatments: cognitive-behavioural therapy (CBT) and EMDR therapy (ISTSS, 2018). Trauma-focussed CBT aims at changing thoughts and behaviours that are related to the trauma. EMDR stands for eye movement desensitization and reprocessing. This is a trauma-focused psychotherapy that aims to reprocess traumatic memories by making patients perform eye moments while recalling the memory. Both CBT and EMDR therapy were found to be effective in reducing PTSD symptoms in victims of sexual assault (Jaycox et al., 2002; Rothbaum et al., 2005; Jaberghaderi et al., 2004). However, little is known about the possibility of preventing the development of PTSD, nor the application of evidence-based treatments shortly after sexual assault. Early interventions may not only reduce the risk of PTSD, but also comorbid psychopathology, physical health problems, and revictimization.

General aims of this thesis

This thesis aims to expand the knowledge about psychological problems after sexual assault, in order to improve the mental health care of the victims. The research of this thesis consists of three parts:

1. An evaluation of the current status and use of the multidisciplinary approach in the Sexual Assault Centres
2. An assessment of the effectiveness of EMDR therapy as an early intervention after rape, with the aim to reduce the risk of PTSD and other psychopathology
3. An assessment of the development of psychological problems after recent rape.

OUTLINE OF THIS THESIS

Chapter 2 describes the current status of acute care for victims of sexual assault in the Netherlands. Those who experience sexual assault are victims of physical and psychological trauma, as well as victims of a crime. Therefore, combining medical, psychological, and forensic expertise is crucial. A multidisciplinary approach is supported by decades of sexual assault research. However, because most research has focussed on female victims, it is not known whether the multidisciplinary services are suitable for male victims as well. Here, we analysed the services used by male victims and compared it to female victims in **Chapter 3**.

As described before, victims of sexual assault are at high risk for developing psychopathology, primarily PTSD. Although there has been much research on the

treatment of PTSD, little is known about the possibilities for preventing the onset of PTSD after rape. **Chapter 4** provides a systematic review and meta-analysis on the studies that have aimed to prevent the development of PTSD after sexual assault using early interventions. **Chapter 5** describes the protocol of a randomized controlled study on the application of a brief early intervention with eye movement desensitization and reprocessing (EMDR) therapy to reduce post-traumatic stress symptoms in victims of rape. The results of this study, in which 52 victims participated, are described in **Chapter 6**.

There is still a lot we do not know about sexual assault and its connection to psychopathology. **Chapter 7** explores predictors of PTSD after sexual assault, including dissociation. Finally, **Chapter 8** studies the relation between PTSD, sexual problems, and pelvic floor overactivity after rape. Expanding the knowledge about the psychopathology after sexual assault is essential in order to develop effective preventions and treatments.

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PART 1

CURRENT STATUS AND USE OF MULTIDISCIPLINARY CARE AFTER RAPE

CHAPTER 2

DEVELOPMENT OF MULTIDISCIPLINARY SEXUAL ASSAULT CENTRES IN THE NETHERLANDS

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European Journal of Psychotraumatology (2022); 13(2), 2127474

ABSTRACT

Background

The professional approach of sexual assault victims has changed since the 1970s: from a fragmented model to a centralised "gate management model", where multiple disciplines offer collaborative services at one central location. Like other countries across the globe, the Netherlands took steps towards an integrated, multi-agency support framework for victims of sexual assault.

Objective

The objective of this paper was threefold: (1) to describe the development of the multidisciplinary Sexual Assault Centres (SAC) in the Netherlands, (2) to assess the characteristics of victims who attended the SAC, and the services they used (3) to analyse Strengths, Weaknesses, Opportunities, and Threats of the current framework (SWOT).

Method

The development of the national network of SAC was described. Data on victims presenting at the SACs were routinely collected between 1st January 2016 and 31st December 2020. This data from the sixteen sites was combined and analysed. Also, a SWOT analysis of the SAC was performed.

Results

The SAC was established between 2012 and 2018. From 2016 through 2020 almost 16,000 victims of sexual assault contacted one of the 16 SACs. The data show a steady increase in yearly cases, with a consistently high use of medical and psychological services. The SAC has several strengths, such as its accessibility, and opportunities, such as increasing media attention, that underline its quality and relevance. However, the SAC's inability to reach certain minority groups and the current financial structure are its main weakness and threat.

Conclusions

Despite the growing number of victims attending the SAC and the increasing awareness of the benefits of an immediate multidisciplinary response to sexual assault, there are still deficiencies in the SAC. The SAC continues to work on these deficiencies in order to optimise efficient and effective care for all victims of sexual assault.

There is clear evidence that sexual assault is related to serious mental health problems, including post-traumatic stress disorder (PTSD), anxiety disorders, substance abuse, major depression, suicidal ideation, and suicide attempts (Fergusson et al., 2013) as well as physical health problems, including anogenital injuries, sexually transmitted infections (STI's), unwanted pregnancy, chronic pelvic pain and pelvic floor dysfunction (Linden, 2011; Paras et al., 2009). Both from an individual as well as a societal point of view, it is important to prevent the negative effects of sexual assault by providing psychological and medical care as early as possible post-assault. Ideally, these services should be integrated with forensic examination to minimise the burden for the victim.

Currently, in many countries acute victims of sexual assault profit from a centralised "gate management model" where professionals from medical, forensic, and psychosocial disciplines offer collaborative services at one central location both in the direct aftermath of the assault as during follow-up. For example, in the United States, the gate model was put into practice by Sexual Assault Response Teams (SARTs) in the 1970s. In the late 1980s and 1990s, the Nordic countries were inspired by SARTs and started to establish rape crisis centres (Bang, 1993; Heimer et al., 1995). The United Kingdom set up its first Sexual Assault Referral Centre (SARC) in 1986, followed by the establishment of many SARCs across the country (Lovett et al., 2004).

The benefits of the gate model have been studied showing a decrease of the psychological and physical impact of sexual assault (Martin et al., 2007) and higher chances to apprehend the offender (Campbell et al., 2008; Campbell et al., 2012). Therefore, the model is recommended by both the World Health Organisation (WHO, 2003) and experts (Eogan et al., 2013; Greeson & Campbell, 2013).

This paper describes the development towards a national network of Sexual Assault Centres (SAC) in the Netherlands, including data on victims and their use of services. Also, it includes an analysis of the network's strengths, weaknesses, opportunities, and threats, which forms the basis for its future development.

The development towards a national network

Already in 1999, the Dutch government was advised by researchers to set up a network of sexual assault centres in the Netherlands (Ensink & Van Berlo, 1999). At that time, victims of sexual assault had to consult different agencies at various locations, which increased the risk of victims dropping out of the system. Furthermore, victims were confronted with waiting-lists and a lack of expertise. It was found that this system slowed down the recovery process (Ensink & Van Berlo, 1999). In response to these urgent issues, in 2012 the first Dutch multidisciplinary SAC was established. During this time, the awareness of the

multidisciplinary approach in the management of acute rape increased in the Netherlands among clinicians and policy makers (Vanoni et al., 2013). Following this shift, more multidisciplinary SACs were set up to ensure its availability and accessibility throughout the Netherlands. Since 2018, a national network of SACs is operational at 16 designated sites that are accessible 24/7 and reachable within an one hour driving distance. The majority of the SACs is integrated into hospital-based Emergency Departments.

The multidisciplinary model

Typical for SACs is the close partnership between hospitals, municipal health services, psycho-social services, and the police, resulting in a combination of medical and psychological care with forensic examination to collect evidence. The SAC aims for efficiency with minimal mobilisation of the victim, minimisation of testimonial mistakes and discrepancies, and avoidance of unnecessary additional stress for the victim. For example, victims are not asked to explain what happened to them more often than strictly necessary. Also, medical care and forensic medical examination are integrated to minimise the victims' potential burden, for example by asking to undress only once.

The multidisciplinary approach focuses on victims who contact the SAC within seven days after the assault. Additionally, the SAC can also be contacted in the period after seven days for psychoeducation and advice. The SAC is accessible without a referral or police involvement. The SAC can be reached by a national telephone number (free of charge) that is operated 24/7 by trained specialists, who connect the victim to the nearest SAC site to ensure care as soon as possible. At the first presentation to a SAC (i.e. day zero), victims first meet a trained (forensic) nurse or health care professional who will stand by the victim through all medical and forensic examinations and helps to create a safe haven. Victims can also make use of the medical and psychological services of the SAC without reporting the assault to the police.

Forensic examination

Those who consider reporting the assault to the police can receive a forensic examination to collect evidence and to document the injury, followed by medical care. In the case of physical injuries that need an immediate response, these will be treated first. The forensic examination is performed at the SAC by a forensics physician in accordance with the guidelines of the Netherlands Forensic Institute and the Dutch Forensic Medical Society (Forensisch Medisch Genootschap, 2016). A forensic examination can only be initiated by the police department for sexual offences in agreement with the victim. This department remains solely responsible for the investigation of the crime and documentation is not shared with the SAC. Although the detectives work together with the health care professionals in coordinating the forensic medical examination

and medical care, police interrogation remains independent from the SACs. It is of note that all cases of victims who receive a forensic examination are filed by the police, but victims are not obligated to make an official report to the police at this time. Reports to the police can be made at any stage.

The forensic physician collects forensic evidence using a "rape kit". During the examination, swabs are taken in an attempt to find DNA of the perpetrator, mostly from sperm, blood or saliva. Time frames for collecting evidence are dependent on the acts, the location on the body, the use of condoms, ejaculation and bathing after the incident. In general, time frames range between 48 hours after the incident for skin to seven days for the vagina (Mayntz-Press, et al., 2008). Bathing or cleaning the anogenital region is common after sexual assault. Although this lowers the probability of catching DNA from the perpetrator, it is no valid reason to omit the forensic examination. The locations that are swabbed depend on the history provided and on the locations of injuries. Anogenital and oral swabs are almost always used. Breasts, neck and nails are also common locations for swabs. Clothes and hair can be secured for DNA examination as well. Anogenital injuries can also provide forensic value, particularly in children who are not sexually active. In acute situations, toxicological examination of blood and urine can provide important information. Lastly, STIs can have forensic importance. In particular situations, determining STIs in both the victim and the perpetrator can provide evidential power.

Medical services

The medical team consists of at least one physician who is specialised in infectious disease or gynaecology, an emergency room physician, or a paediatrician. Medical care consists of three parts. First, potential injuries and pain are examined and treated. Second, victims receive screening and (preventative) treatment of STIs following the national guidelines of the Dutch Society for Paediatrics (Nederlandse Vereniging Kindergeneeskunde, 2016) and the Ministry of Health, Welfare and Sport (RIVM, 2020). This includes post-exposure prophylaxis (PEP) and hepatitis B vaccination if needed. It is recommended not to treat for chlamydia and gonorrhoea prophylactically, but to test at presentation and at follow-up after two weeks. Follow-ups entail screening for syphilis, hepatitis B, and HIV at two weeks and three months post-assault and screening of HIV at six month post-assault for adults who were prescribed PEP. The SAC also offers information, counselling and treatment for the victim and their partner when an STI is diagnosed. The third part of the medical care is pregnancy prevention. Emergency contraception and pregnancy tests are provided when indicated. Victims who are pregnant are referred to specialist care. It is a standard procedure to inform the victim's general practitioner about the medical care provided by the SAC.

Psychological services

One day after admission to the SAC, (i.e. day one), victims are contacted by a casemanager via telephone or face-to-face. Casemanagers do not ask for details of the assault or for the victims to express their feelings, in order to refrain from psychological debriefing and its potentially harmful effects (Rose et al., 2002). As posttraumatic stress symptoms often alleviate within the first month after rape (Rothbaum et al, 1992), the SACs operate under the 'watchful waiting' principle, meaning that psychological treatment is withheld to prevent interference with natural recovery. Instead, psychological services of the SAC consist of psychoeducation and trauma screening by a casemanager during the first four weeks post-assault, combined in a three step watchful waiting protocol. This active monitoring during the first month after a traumatic event is supported by the most recent NICE guidelines (NICE, 2018) for people with subthreshold PTSD. For those meeting the diagnostic threshold for PTSD, there is evidence for the effectiveness of trauma-focussed cognitive behavioural therapy as an early intervention (Roberts et al., 2019). However, almost all victims of sexual assault meet this diagnostic threshold immediately after the assault (Covers et al., 2021; Steenkamp et al., 2012) and evidence for the effectiveness of early intervention for this group specifically is limited (Covers et al., 2021, Oosterbaan et al., 2019).

In the first step, the casemanagers make an assessment of the victims' current safety, social support system, risk behaviour (use of substances and self-harm) and current psychological functioning. The second step entails psychoeducation about normal stress responses during and after sexual assault as well as trauma processing. This psychoeducation extents to parents, partners, or other persons who are close to the victim. Finally, casemanagers aim to reduce potential stress caused by contact with medical professionals or police. They also refer the victims to specialists when legal counselling is needed.

At two and four weeks post-assault, victims are contacted again by the casemanager. The casemanagers repeat the three steps and screen for PTSD using the Children's Revised Impact of Events Scale (CRIES-13; Verlinden et al., 2014) for children and the Trauma Screening Questionnaire (TSQ; Brewin et al., 2002) for adults. When indicated, victims are referred directly for evidence-based PTSD treatment, such as EMDR therapy or Cognitive Behavioural Therapy (ISTSS, 2018).

METHOD

Procedure

Since 2016, all sites of the SAC register anonymized information about the victims and their service use. This data is collected for the purpose of the yearly SAC reports. The

present study describes the data collected between January 2016 and December 2020 on victims who attended the SAC in person. All data was anonymized and included no specific details of the victims. Victims verbally consented to the collection of this anonymized data. According to the Ethical Medical Committee of University Medical Centre Utrecht, the Declaration of Helsinki and the Dutch Medical Research involving Human Subjects Act are not applicable to the present study since it uses anonymized patient files. Data was collected by the coordinators of each SAC location, who informed the researcher about the number of victims and victim characteristics at their centre.

For the purpose of analysing the quality and potential of the current network of SACs, a Strengths Weaknesses Opportunities and Threats (SWOT) analysis was realised. The Strengths and Weaknesses describe helpful and harmful aspects of the network that find its origin within the organisation, whereas the Opportunities and Threats are helpful and harmful aspects that originate from outside of the organisation.

Measures

All victims characteristics were coded as binary variables. To protect the victims anonymity, age was recoded into older or younger than 18. Victim characteristics further included gender and prior victimisation at first presentation to SAC. Prior victimisation was measured by asking the victim if they had ever experienced any form of sexual assault before. Service characteristics included forensic examination, the use of medical care, reporting to the police, and the use of psychological care (whether or not victims received watchful waiting by their casemanager).

Data analysis

For the victim profile and service use, the frequencies across all SAC location were produced. Most variables had no missing values, with the exception of prior victimisation and reporting to the police. It was only known how many victims had experienced prior victimisation and how many had reported to the police. However, it was not known whether the other victims had not experienced prior victimisation or reported to the police, or whether they had refused to answer this question or the question was not asked. Therefore, these statistics may be an underrepresentation. The authors deliberated on the four quadrants of the SWOT analysis. A SWOT analysis is designed to facilitate a realistic, fact-based, data-driven look at the strengths and weaknesses of an organisation. The organisation needs to keep the analysis accurate by avoiding pre-conceived beliefs or grey areas and instead focusing on real-life contexts. A SWOT analysis should be used as a guide and not necessarily as a prescription.

RESULTS

Victim profile and service use

From 2016 through 2020, a total of 15,936 victims of sexual assault contacted the Dutch SACs. Of these victims, 7,056 contacted the SACs within seven days after the assault (i.e. acute cases) and were therefore eligible for the multidisciplinary approach consisting of medical care, forensic examination, and psychological care. The other victims (n = 8,880) contacted the SACs after these seven days (i.e. non-acute cases) for psychoeducation or advise. Figure 1 shows an increase in both acute and non-acute cases over the years. It should be noted that the expansion of the national network prior its completion in 2018 accounts partly for the increase in cases. Notably, the increase in acute cases stabilised in 2020, while the non-acute cases show a large increase relative to 2019. Between 2016 and 2020, the percentage of acute victims under the age of 18 has been stable at 31%. Every year, one in four victims reports having experienced prior sexual violence. Data on victim gender were collected since 2017 and shows that victims are primarily female, with the percentage of male victims fluctuating between 8% and 12%. The victims' service use within the SACs per year can be found in Figure 2. Most victims receive medical and psychological care (on average 78% and 86%, respectively). Moreover, on average 49% of acute victims have a forensic medical examination at the SAC, and 34% make a police report.

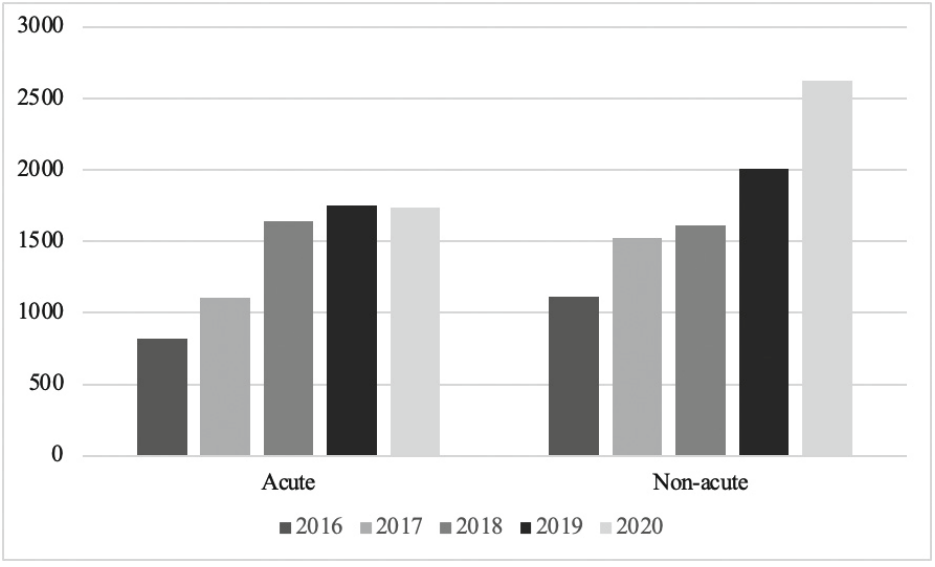

Figure 1. Distribution of acute and non-acute cases of the SAC from 2016 to 2020.

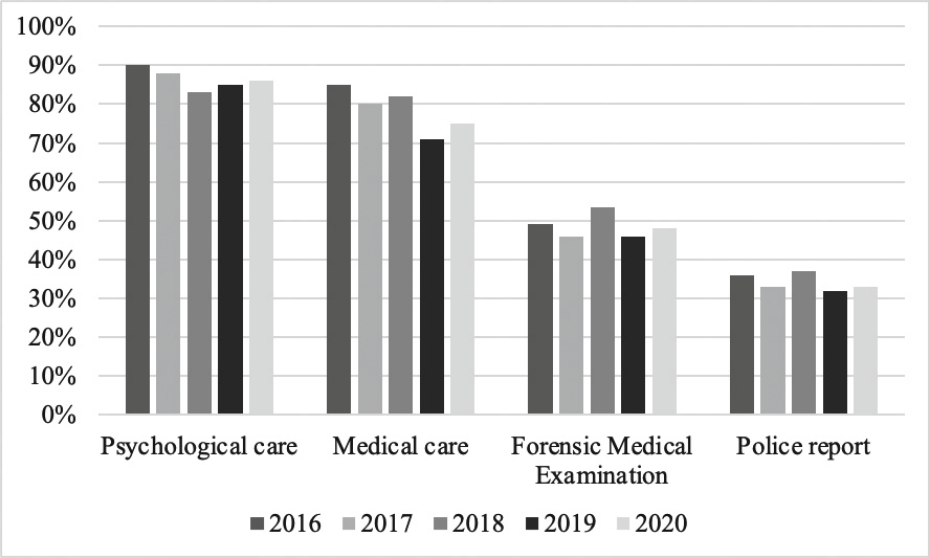

Figure 2. SAC service use from 2016 through 2020.

SWOT Analysis

Strengths

The multidisciplinary network of SACs in the Netherlands has several strengths. First, the centres are easily accessible via telephone and chat. The network has expanded rapidly over the last few years, resulting in the 16 current centres that are dispersed nationwide in such a way that every victim can find a centre within a one hour driving distance from anywhere in the Netherlands. The national telephone number is available 24/7, ensuring that calls are answered at any time of day. The chat is available outside working hours to ensure that victims can contact a professional at any time of day. Both the national telephone number and the chat are free of charge and can be used anonymously.

A second strength of the national network of SACs is the strong alliance with the national police department of sexual offences, connecting the patient and victims aspects of sexual assault victimisation. The standard working procedures of the centres and the police department of sexual offences are intertwined. This guarantees that acute victims who contact the police about the assault will always be referred for medical and psychological care, and vice versa.

Third, all SACs adhere to the same standard of quality. The network of SACs and the 35 Dutch central municipalities have developed and signed the criteria for service quality of

the SACs. This document binds all centres to a high quality of multidisciplinary medical, forensic, and psychological services and ensures that all victims receive the same services, regardless of which centre they are referred to. Furthermore, all professionals in the SAC receive regular training to ensure the understanding of and adherence to the quality criteria.

Weaknesses

We have found various weaknesses in the current network of the SACs. First, there are concerns for whether the SACs sufficiently address all victims. Victims who refer to the SACs are mainly female adolescent and young adult victims. However, men and older adults are also victimised by sexual assault (Lowe & Rogers, 2017; Lee et al., 2019). Moreover, studies have found that LGBTQI+ people (de Graaf & Wijsen, 2017), people with disabilities (Casteel et al., 2008), and people with substance abuse problems (Messman-Moore & Brown, 2009) are at high risk for experiencing sexual assault. Yet, the SACs do not seem to be sufficiently accessible for these persons.

Second, we have concluded that the forensic medical examination is not performed in a standard way for children and adults. Children until the age of 15 years are routinely assessed top-to-toe whereas adults are not. For adult victims, the focus of the forensic medical examination now depends on the victims' narrative to the police, which may impact the collection of evidence and the documentation of injuries (Ingemann-Hansen et al., 2008). Current forensic services may be improved with the use of standard top-to-toe forensic medical examinations for victims of all ages, in line with international guidelines (The Faculty for Forensic & Legal Medicine of the Royal College of Physicians [FFLM], 2021).

Third, although evidence-based treatment for PTSD is ensured for those who present at the SAC immediately after rape, for persons who have experienced abuse longer than seven days ago, the SAC experiences challenges in referring victims to appropriate mental health services because of waiting lists.

Opportunities

Several opportunities were found that benefit the SACs. First, in 2011, the Council of Europe opened the Istanbul Convention: a new treaty on preventing and combating violence against women and domestic violence. This treaty was signed by the Netherlands in 2015 and went into force in 2016. The Istanbul Convention is an opportunity for the Dutch SACs, because the government is obligated to take measures to prevent, investigate, punish and provide reparation for gender-based violence (Article 5) and to ensure that victims have access to services facilitating their recovery from violence (Article 20). Specifically for sexual assault, the Istanbul Convention declares that

states need to provide "sexual assault referral centres for victims in sufficient numbers to provide for medical and forensic examination, trauma support and counselling for victims" (Article 25). The Istanbul Convention is highly relevant to the SACs as it obliges the government to develop proper care for victims of sexual abuse. Further implementation of this treaty by the state can aid the network of SACs with policies (Article 7) and financial resources (Article 8).

A second opportunity for the network of SACs is the international media attention for sexual assault through #MeToo, a twitter hashtag about sexual harassment and assault that went viral in October of 2017, followed by #metooincest in 2021. The hashtag publicly confirmed that sexual assault is not a rare phenomenon, but an everyday reality for many people. Following #MeToo, the media attention for the Dutch SACs increased as well, with interviews and appearances in television programs, newspapers, podcasts, magazines and social media. It is likely that this attention for the SACs had improved public awareness, as a sharp increase in the number of acute SAC referrals was found between 2017 and 2018 (Figure 1). More recent, television show The Voice of Holland has been pulled off the air in January 2022 amid allegations of sexual misconduct by various employees of the show that are now being investigated by the police. Since this scandal broke, the number of chats and phone calls to the SACs has risen significantly and the police department of sex crimes reported an increase in police reports of over 25%.

Third, in November of 2020, the Dutch Minister of Justice and Security declared that the law on sexual assault will be reformed in response to changing social attitudes towards sex and sexual violence. The proposed reform also aims to bring Dutch law in line with the requirements of the Istanbul Convention. Currently, the Dutch criminal law defines rape as the 'actions comprising or including the sexual penetration of the body' that have taken place by force (Art. 242). Force is specified as 'coercion through violence, the threat of violence or through another act or the threat of another act'. In this definition, force and violence are crucial aspects for criminal prosecution. However, research has shown that 70% of victims experience tonic immobility: a temporary state of motor inhibition (Möller et al., 2017). This 'tonic immobility' eliminates the need for force and violence. The new bill implies that all forms of non-consensual sex will now be classed as rape. This new definition poses an opportunity for the SACs. When sexual assault without physical or verbal violence is recognised as a criminal offence, victims of these assaults may feel less reserved to contact the SACs for help.

Finally, a new type of sexual violence is increasing rapidly in numbers. Police and mental health professionals are becoming more aware of the negative impact of online or cyber sexual violence such as sexting, sextortion and digital grooming. Similar to sexual

abuse in real life, online sexual abuse is associated with a broad range of behavioural and psychological characteristics (Frankel et al., 2018). Also, online sexual violence may result in hands-on sexual activities or in other physically harmful situations that need immediate medical care. Therefore, the SAC network is an opportunity to respond adequately to this new type of traumatisation.

Threats

The main challenge SAC has faced is the financing of its services and activities. The Dutch Foundation for Victims (Fonds Slachtofferhulp) enabled the running costs for the first years. In later years, the Dutch Ministry of Health, Welfare and Sport as well as the Ministry of Justice financed the centres. Due to decentralisation of several aspects of health care, 35 municipalities are financially responsible since 2018 for the regional centres as well as the national activities such as phone number and website. This structure is risky because negotiating with 35 municipalities about finances threatens the uniformity of the services delivered by SAC. Discrepancies have been identified between the 16 regional centres with regard to available housing, staffing, and finances (Ministerie van Volksgezondheid, Welzijn en Sport, 2020). These differences are the result of local structures that have historically been built in a certain way. This should not be problematic per se as all centres follow the national quality criteria. However, considering the recent increase of number of victims referred to the centres, differences between centres can threaten quality of care provided in the near future.

A second threat concerns the embedding of the SACs at the Emergency Departments of hospitals implying that use of the SAC is not free of charge. In the Netherlands, it is mandatory to have at least a basic health insurance with a compulsory 'own-risk' excess of a minimum of 385 euros per year, meaning that adult citizens pay the first 385 euros of their yearly medical bills (excluding GP visits) before the insurer pays. Therefore, adult victims of sexual assault may have to pay part of the medical costs from their SAC visit. So, this directly threatens the accessibility of the SACs. Recently, a pilot study was run by the Ministry of Justice from 2020-2021 where the government repaid these costs to victims. The aim of this pilot was to explore to what extent this process can reduce victims' thresholds for SAC use. The findings are yet to be published.

CONCLUSION

Inspired by international developments towards a multidisciplinary approach for acute victims of sexual assault, a network of 16 SACs was established in the Netherlands by 2018. Typical for the SAC is the close partnership between hospitals, municipal health

services, psycho-social services and the police who cooperate according to protocols establishing optimal conditions for forensic evidence collection, medical services and psychological care, in accordance with the Istanbul Convention and the international guidelines. This national network of SACs provides expertise and clarity for victims about where to get help and reduces the likelihood of victims dropping out of the system because of waiting-lists and large travel distances.

From 2016 through 2020 almost 16,000 victims of sexual assault contacted the SAC. Ever since its existence, there is a yearly increase in the number of persons admitted to the SAC. Notably, in 2020 the increase in acute cases stabilised while the number of non-acute cases saw a sharp incline. This may be a result of the Covid-19 pandemic, as social isolation due to lockdowns may have motivated people who were victimised a longer time ago to contact the SAC, while the pressures on the health care system may have prevented acute victims from seeking help. Additionally, social isolation may have reduced the incidence of date-rape and (alcohol-induced) sexual assault in nightlife. Over the years, the acute victims were primarily female, as is the case in most international SACs (Bang, 1993; Kerr et al., 2003; Larsen et al., 2014). One third of the victims were minors. This incidence is higher than in other SACs (Kerr et al., 2003; Larsen & Hilden, 2014), but this discrepancy is most likely caused by differences in the definition of 'minor' and the organisation of child health care. In the Netherlands, victims of all ages can make use of SAC services, and minors are defined as younger than 18. Prior assault was reported by one in four victims. Similarly, other SACs observed that approximately a third of their victims experienced prior sexual assault (Larsen & Hilden, 2014; Vik et al., 2019).

Between 2016 and 2020, the service utilisation was overall noted as high with a majority of victims receiving medical care and psychological care. Over time, the multidisciplinary service use among victims has remained stable. The existence of specialised services in combination with a close collaboration with the police may lead to a higher utilisation of services, as has been suggested in previous research (Greeson & Campbell, 2013). Notably, the percentage of police reporting in the SAC stands in sharp contrast to the national reporting rates for sexual assault which are estimated to be as low as 10% (Merens et al., 2012). Although the police is the primary source for referrals to the SAC and a high reporting rate is thus to be expected, the multidisciplinary approach may facilitate police reporting because victims feel acknowledged in an environment where experts work closely together. Summarised, the high use of services at the Dutch SAC confirms the need for comprehensive care for victims of sexual assault and thus the appropriateness of the SAC model.

The SWOT analysis shows that the Dutch SAC network has achieved 24/7 accessible care, characterised by a strong cooperation with the police. The primary internal weakness of the network is its outreach towards at-risk and minority groups. For future developments, the SACs aim to launch educational campaigns aimed at victims in these groups. There are several external factors that pose an opportunity or threat for the network. The attention for sexual assault in the media, politics, and law give the SACs opportunity to promote and further develop their services. However, lack of finances impedes progression. The current system of financing by municipalities has led to discrepancies in the finances, housing, and staffing per centre. To achieve uniformity in the quality of care, the multidisciplinary network needs an increase in budget as well as centralisation of the SACs finances. Without increased (centralised) funding, the quality of the care that the SAC provides may be at risk. Yet, the SAC aims to continue its growth and development by working through its challenges.

Given the opportunities from this SWOT analysis, an increase in victims attending the SAC is projected for the near future. For example, it is plausible that the changing law on sexual assault lowers the threshold for disclosure and help-seeking. Crucially, the SAC has to move alongside these changes to prevent fragmentation of care, by solidifying its position as the central point of all sexual assault related information and services in the Netherlands. As such, the SAC aims to extend its focus to include all aspects of sexual assault, including suspicion of sexual abuse in children, online sexual assault, and non-acute victim care.

There are several limitations to this study. First, several variables may be underestimated due to method of data collection. For example, the SACs may not always ask victims whether they have experienced prior sexual assault. Also, victims may refuse the psychological services of the SAC because they already have a mental health care provider. Additionally, victims may file a police report at a later date. Second, the study lacked information to provide a complete victim profile. While each SAC site collects information on baseline and outcome physical and psychological health of its victims, patient confidentiality impedes us from combining this information into a central SAC database. Likewise, the outcome of the police reports is collected by the police but not shared with the SAC. Prospective longitudinal research taking these components into account is needed to further delineate the impact of SAC.

The services of the SAC are in need of further research. Firstly, it is unknown if and how the SAC contributes to police reporting and the outcomes of legal trials. Secondly, it is yet to be determined whether the psychological services contribute to the victims' well-being. Recent research comparing victims who received these services to victims who

received early intervention using EMDR therapy, found that PTSD symptoms decrease equally after both groups, and more than in comparable studies (Covers et al., 2021). This may indicate that the psychological services of the SAC aid the recovery of victims of sexual assault. However, further research is needed to determine the working elements of these services. Lastly, future research ought to examine the opinions about the SAC of the referred victims. Their satisfaction, needs and ideas are crucial for determining the successfulness of the SAC.

In conclusion, this study improved our understanding of the victims using the SACs and its services. The increasing attendance of victims of sexual assault together with a good uptake of the services offered, encourage further development of the multidisciplinary approach of rape victims in Dutch SACs, especially since the upcoming reforms of the Dutch law on sexual assault is expected to result in more victims to present at the SAC.

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CHAPTER 3

MALE VICTIMS AT A DUTCH SEXUAL ASSAULT CENTER: A COMPARISON TO FEMALE VICTIMS IN CHARACTERISTICS AND SERVICE USE

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Journal of Interpersonal Violence (2021); 37(15), NP14772

ABSTRACT

Background

Recently, there has been an increase in referrals of male victims of sexual assault to interdisciplinary sexual assault centers (SACs). Still, there is limited research on the characteristics of men who refer or are referred to SACs and the services they need. To facilitate the medical, forensic and psychological treatment in SACs, a better understanding of male victims is indispensable.

Objective

The first aim of the study was to analyze the victim and assault characteristics of male victims at a Dutch SAC, and to compare them to those of female victims. The second aim was to analyze and compare SAC service use between male and female victims.

Methods

The victim characteristics, assault characteristics, and service use of 34 male victims and 633 female victims were collected in a Dutch SAC. T-tests and Chi-square tests were used to analyze differences between male and female victims.

Results

No differences between males and females in victim or assault characteristics were found. Most victims received medical and psychological care, with no differences between male and female victims. Female victims were more likely to have contact with the police, but no differences in reporting or forensic medical examinations between males and females were found.

Conclusion

These findings indicate that SACs can and do provide equal services to male and female victims, and that the current services are suitable for male victims as well. However, a focus on educating and advising male victims about police involvement is advisable.

In the last 20 years, hospitals and mental health organizations across Europe have established specialized sexual assault centers (SACs) (Bicanic et al., 2014; Kerr et al., 2003; Schei et al., 2003; Vandenberghe et al., 2018). These centers provide acute medical, forensic, and psychological care to anyone who believes that they have been the victim of sexual assault. Victims of sexual assault (i.e. oral, anal, or vaginal penetration without consent, unwanted sexual touching or kissing, hands-off, or online sexual abuse) can refer themselves to these centers in the first week after the assault (Centrum Seksueel Geweld, 2020). Alternatively, medical and psychological professionals or police officers can refer someone to the SACs. Since the start-up of these SACs, the victims who use the services in these centers have been mainly female, and studies have aimed to identify the needs of these female victims in order to provide suitable care (Bicanic et al., 2014; Kerr et al., 2003; Schei et al., 2003). However, yearly, 4 to 7 percent of men in the Netherlands suffer sexual assault as well (de Graaf & Wijsen, 2017). The underrepresentation of male victims at SACs has resulted in limited research and knowledge on the medical, forensic, or psychological needs of men who seek help in the immediate aftermath of sexual assault.

In this study, we examined the characteristics of male victims and their assault in sexual assault victims who refer to a Dutch SAC, as well as the SAC services that they use. Moreover, we explored differences between male and female victims in victims characteristics, assault characteristics, and service use.

Male victims' disclosure

Research has found the main reason for the underrepresentation of male victims at SACs to be the delay or absence of disclosure: Male victims are less likely to disclose their assault and seek help than female victims (de Graaf & Wijsen, 2017; Monk-Turner & Light, 2010). This barrier to disclose is related to commonly held myths surrounding male sexual assault victimization (Easton, Saltzman, & Willis, 2014; Lowe & Rogers, 2017; Sorsoli, Kia-Keating, & Grossman, 2008; Turchik & Edwards, 2012). These rape myths include that men cannot be victims, because victims are considered as weak and society expects men to be strong (Dorahy & Clearwater, 2012; O'Leary & Barber, 2008; Young, Pruett, & Colvin, 2016). Other myths imply that when men become victim of sexual violence, they do not develop any distress and may even find it pleasurable (Peterson et al., 2011). These rape myths attribute responsibility for the assault to male victims. In fact, a vignette study found that male victims were more likely to be blamed for their assault than female victims (Davies, Rogers, & Whitelegg, 2009). Male victims also blame themselves for the assault and therefore experience feelings of shame (Dorahy & Clearwater, 2012). Moreover, the rape myths cause male victims to believe they should have experienced pleasure from the assault, resulting in long term crises

with sexual orientation and masculinity in more than half of all male victims (Walker et al., 2005). Crucially, these male rape myths impact male victims' perception of available help: There is evidence to suggest that male victims do not seek help because they expect professionals to disbelieve or blame them (Depraetere et al., 2018). Thus, male rape myths influence male victims' disclosure and preclude immediate care after sexual assault.

Male victims at SACs

Nonetheless, the Dutch SACs have seen an increase in male referrals over the last few years, increasing from 8% of all referrals in 2017 to 12% in 2019 (Centrum Seksueel Geweld, 2018; Centrum Seksueel Geweld, 2020). This development is important, as research shows that victims who receive coordinated care within a week after the assault are more likely to obtain the resources needed to facilitate their recovery (Campbell et al., 2001). However, this increase in male referrals raises the question whether the SACs' typically female-focused services align with the service needs of male victims. To answer this question, it is important to look at research on male victims' service use and how this compares to female victims'.

A limited body of research reports on the male victims' use of SAC services. Research at Canadian (Du Mont et al., 2013), Danish (Larsen & Hilden, 2016), and American SACs (Kimerling et al., 2002; Riggs et al., 2000) has consistently found the need for treatment of genital or rectal injuries in one third of male victims. About half of male victims seeking help at SACs receive forensic medical examination to collect evidence to potentially use in court (Du Mont et al., 2013; McLean, Balding, & White, 2005) and about half of male victims at SACs report the assault to the police (Kimerling et al., 2002; Larsen & Hilden, 2016). The use of psychological care by men has rarely been studied and findings are mixed: A SAC in Canada reported that 76% of men sought counselling (Du Mont et al., 2013; n=38), in contrast to 48% in the United Kingdom (McLean et al., 2005; n = 376). Although this difference may be explained by the difference in sample size, these contrasting findings underline the importance of further research.

When comparing the characteristics of male victims' assault to those of female victims, three studies report on these differences within SACs. First, Riggs et al. (2000) and McLean et al. (2005) found that men who refer to SACs were more likely to have multiple assailants than women. Mclean et al. (2005) also reported that men were more likely to be assaulted in public places, but found no difference in the use of force, violence, or weapons between male and female victims. In contrast to this, Kimerling et al. (2002) and Larsen and Hilden (2016) found that female victims had more often suffered injuries than male victims. Still, men were less likely to report their assault to the police

(Kimerling et al., 2002; McLean et al., 2005). Lastly, more male than female victims suffered from pre-existing psychiatric disorders (Kimerling et al., 2002).

It should be noted that across these studies on male victims of sexual assault, male victims under the age of 12 are often referred to as victims of child sexual abuse and therefore left out of analysis (e.g. DuMont et al., 2013; Masho & Alvanzo, 2010; McLean et al., 2005). However, in the Netherlands, victims of all ages are welcomed by the SACs and receive equal care.

This research

To facilitate the medical, forensic and psychological treatment of men in SACs, a better understanding of these victims, their assaults and service use is needed. The present study aims to examine the victims and assault characteristics and service use of male victims who refer to or are referred to a Dutch SAC, and to compare them to those of female victims. First, the victims characteristics, consisting of age and frequency of pre-existing mental health care, and assault characteristics, consisting of type of assault, frequency of physical injury, physical violence, verbal violence, multiple assailants, and assaults in public places, of the male victims will be analyzed and compared to those of female victims. Second, the use of SAC services, including medical services, forensic services, crisis counselling, and referrals to mental health services of male victims will be analyzed and compared to female victims.

METHOD

Participants

The present study was conducted at a Dutch sexual assault center (SAC). The Dutch SACs are interdisciplinary centers combining 24/7 acute medical, forensic, and psychological services for anyone who believes that he or she has been a victim of sexual assault within the last seven days. The participants of this study either presented themselves at one of the sixteen Dutch SACs, located at the University Medical Center in Utrecht, or were referred by the police, medical practitioners, mental health professionals, or people from their own network.

The medical services of the SAC entail treatment for physical injuries, pregnancy testing, and the testing, prevention and treatment for sexual transmitted diseases (STD). The forensic services of the SAC exist of collecting evidence through forensic medical examination for victims who wish to report their assault to the police. The SACs works closely together with detectives from the specialized sexual assault department of

the police. The psychological services of the SAC entail a psychological stress reaction monitoring process during the first four weeks post-assault. This "watchful waiting" approach is recommended as early intervention after a traumatic event (National Institute for Clinical Excellence, 2005). The watchful waiting protocol is carried out by a trained case manager via phone. When the case manager detects a need for further diagnostics and/or treatment, the victim is referred to mental health services for trauma-based treatment.

Procedure

At admission to the SAC, information concerning victim characteristics, assault characteristics, and the use of services were registered into the victims' medical files (all medical information such as injury and medication use) and SAC patient files (victim and assault characteristics, and SAC service use) by the case managers. There was no standardized method for collecting this information, but case managers registered all information that the victim provided, with the victim's verbal consent. For the present study, a trained case manager coded all available information into a database. Only the case-files of victims who referred to the SAC at University Medical Center in Utrecht were available for analysis. A total of 705 victims, including 44 men and 661 women, were seen at this SAC between January 2012 and December 2019. All information was anonymized and specific details of the victim and the assault were omitted. According to the Ethical Medical Committee of University Medical Center Utrecht, the Declaration of Helsinki and the Dutch Medical Research involving Human Subjects Act are not applicable to the present study since it uses anonymized patient files.

Measures

Victim characteristics

The present study used the following victim characteristics from the database: gender (male/female), age (continuous), and self-reported current use of mental health services (yes/no). The information about the victim's gender is not based on biological sex but on the gender identity reported by the victims themselves. In this study gender is described as binary rather than spectral considering every victim identified his or herself as either male or female.

Assault characteristics

The victims' description of the sexual assault was categorized as either unwanted sexual touching (including unwanted kissing) or rape (defined as oral, vaginal, or anal penetration with any body part or object without consent). Physical violence during the assault (yes/no), verbal violence during the assault (yes/no), the presence of physical injury (any injuries found during physical examination, including small cuts, bruises, and

abrasions; yes/no), multiple assailants (yes/no), and the location of the assault (public/private) were reported as well.

Service use

Information was retrieved about the victim's post-assault use of the SAC services. These variables were coded into yes/no. These variables included the use of any medical services, forensic services, and psychological counselling. Within forensic services, information on contact with the police, FME and police reporting were included. Referral to mental health services was included as well.

Data analyses

All analyses were specified prior to data collection. Out of 705 victims, 11 were excluded from analyses because the time since the assault was unknown (7 men and 4 women) and 27 were excluded because there had been no contact between these victims and any of the SAC professionals (3 men and 24 women). The remaining dataset consisted of 34 men and 633 women. It should be noted that the age of eight women was unknown, although it was confirmed that they were all adults. These women were not excluded from analysis. The victim characteristics, assault characteristics and service use of male and female victims were reported in frequencies, and Chi-square analyses were used to compare these variables between groups (male or female). Where an expected frequency in the Chi-square distribution was lower than 5, the Fisher's exact test was reported. The mean age of male and female victims was compared using an independent sample t-test. All analyses were conducted using IBM SPSS version 25.0.

RESULTS

The victim characteristics, assault characteristics, and service use are shown in Table 1. There was no difference in age between male and female victims (t = -0.95, df = 657, p = .344). Almost half of the male and female victims were receiving mental health care before the assault. Regarding assault characteristics, most male (87%) victims had experienced rape. The percentage of physical violence in male victims was 27% and 15% had injuries. Fifteen percent of male victims experienced verbal violence. Furthermore, 17% of male assaults involved multiple assailants, and 64% of the male victims were assaulted in a private location. The results of the analyzes show no significant differences in any of the victim or assault characteristics between male and female victims. It should be noted that the odds ratios for these characteristics were over 1.0, indicating that female victims were at higher odds for having pre-existing mental health care and having experienced rape, physical violence, injury, verbal violence, multiple

assailants, and assault in a private location. However, the 95% confidence intervals were large which demonstrates little precision in the estimation of the odds ratios.

Table 1. Victim characteristics, assault characteristics, and service use of male and female victims of sexual assault

	Men	Women	Chi	Fisher	OR (95% CI)
Victim characteristics					
Age	20.88 (10.44)	22.55 (10.01)			
Pre-existing MHC			1.12		1.48 (0.71, 3.09)
Yes	13	270			
No	18	252			
Assault characteristics					
Type of assault			.05	1.00	
Touching	4	86			
Rape	26	496			
Physical violence			2.66		2.06 (0.85, 5.00)
Yes	7	202			
No	19	266			
Injury			0.80		1.63 (0.55, 4.82)
Yes	4	135			
No	22	455			
Verbal violence			0.02	1.00	
Yes	4	71			
No	22	362			
Multiple assailants			0.11		1.18 (0.44, 3.16)
Yes	5	113			
No	25	477			
Location			0.98		1.49 (0.67, 3.31)
Public	10	139			
Private	18	373			
Service use					
Medical (any)			2.29		1.74 (0.84, 3.60)
Yes	22	482			
No	12	151			
Contact with police			6.45*		2.47 (1.20, 5.07)
Yes	21	499			
No	13	125			
FME			0.78		1.51 (0.61, 3.75)
Yes	8	246			
No	12	245			

Table 1. (Continued)

	Men	Women	Chi	Fisher	OR (95% CI)
Police report			0.65		0.68 (0.27, 1.74)
Yes	13	247			
No	7	195			
Psychological (any)			0.11		0.85 (0.32, 2.24)
Yes	29	525			
No	5	107			
Referral to MHC			0.56		1.31 (0.64, 2.67)
Yes	19	368			
No	14	207			

Note. Data is given in mean (sd) or n. * p < .05 ** p < .01. MHC is mental health care. FME is Forensic Medical Examination.

Furthermore, 65% of male victims received medical care and 85% received psychological care at the SAC. Also, 58% of male victims were referred for post-SAC mental health care. The results show no significant difference in the use of medical care, psychological care, or referral between male and female victims. In contrast, a smaller percentage of male victims (62%) than female victims (80%) had contact with the police and this difference was found to be significant. Female victims were two and a half times more likely to have contact with the police at the SAC than male victims, but once the police was involved, there were no significant differences between males and females in FMEs (40% of male victims and 50% of female victims) and police reporting (65% of male victims and 56% of female victims). Within service use, the odds ratios indicate that male victims were more likely than female victims to report to the police and receive psychological care, whereas female victims were more likely to receive medical care and be referred to mental health care. Again, the odds ratios of these services have large confidence intervals.

DISCUSSION

This study examined and compared the victim and assault characteristics and service use of male and female victims who refer to or are referred to a Dutch SAC. The first aim was to examine the type of assault, frequency of physical injury, physical violence, verbal violence, multiple assailants, assaults in public places, and the age and current use of mental health services of the male victims and to compare them to female victims. The present study found no differences in these victim and assault characteristics between male and female victims. Most victims had experienced rape. Whereas previous

research found that one in three male victims who referred to SACs had suffered injury that required treatment (Du Mont et al., 2013; Kimerling et al., 2002; Larsen & Hilden, 2016; Riggs et al., 2000), our study found injuries in only one in seven male victims. This discrepancy may be caused by the fact that in the Netherlands, full body examinations to check for injuries are only standardized for minors, whereas adults must disclose any injuries themselves, while other countries have standardized full body examinations for all ages. When comparing the incidence of physical or verbal violence or injuries between male and female victims, the present study found no differences. This finding is in line with those of McLean et al. (2005), but not with Kimerling et al. (2002). Unlike these studies, our study found no difference between male and female victims in the number of assailants and the location of the assault, nor the use of mental health services. This lack of differences between male and female victims may indicate that male victims with all types of negative sexual experiences refer to the Dutch SAC, and not only those who have experienced extremely violent assaults.

The second aim of the present study was to report the use of SAC services, including medical care, police contact, FME, police reporting, psychological counselling, and referral to mental health care of male victims and to compare them to female victims. This study found that 85% of male victims made use of psychological counselling at the SAC. Previous studies had found varying results, which may be related to the time since the assault. For instance, the study of Du Mont et al. (2013) included victims who referred to the SAC within three days and found a similar percentage as the present study. In contrast, McLean et al. (2005) included all victims, regardless of the time since the assault, and found a lower percentage (48%). This indicates that male victims may be more receptive of psychological care immediately after the assault. In this case, emergency care poses a unique ability to provide psychoeducation and further psychological care that is not present at a later time. Medical care was provided for most victims at admission to the SAC with no differences between male and female victims. The SAC also provides follow-ups for STD screening at 3-4 weeks and 3-6 months, but information about these screenings was not available for the present study. Further research should study the attendance rates of these follow-ups as well, as well as possible risk factors for not attending these follow-ups, including gender.

The current findings support the absence of differences in the use of SAC care between male and female victims, which may indicate either none or equal biases from professionals across genders. Nevertheless, there was a difference in overall police involvement, where male victims were less likely to get in contact with the police than female victims. This difference may be caused by commonly held stigmas about masculinity that have been discussed earlier, and the subsequent blame and shame

that male victims experience (Davies & Rogers, 2006; Davies, Rogers, & Whitelegg, 2009; Dorahy & Clearwater, 2012). Male victims may refuse police involvement as they expect that they will be disbelieved, ridiculed, or blamed for their assault (Depraetere et al., 2018; Walker et al., 2005). In another way, the difference in overall police involvement may also reflect differences in the agency that is first consulted by victims after sexual assault. Some victims first consult the police, and others first consult a medical (at the GP's office or SAC's emergency room) or psychological professional. Possibly, women are more likely to disclose the assault to the police at first, whereas men more often tell the SACs or their general practitioner about the assault first. Further research is needed to delineate possible differences between male and female victims in the route to SACs. Still, once referred to the SACs, the professionals can influence a person's choice for service use. Therefore, our findings suggest that for male victims who have not yet contacted the police when referring to SACs, the medical and psychological professionals of the SACs should pay special attention to discussing police involvement with the victims.

For the victims who did have contact with the police, the findings of the present study on FMEs and police reporting were in line with previous research, with about half of male victims receiving a FME and reporting to the police (Du Mont et al., 2013; McLean et al., 2005; Kimerling et al, 2002; Larsen & Hilden, 2016). In contrast to Kimerling et al. (2002), we found no differences between male and female victims, which may reflect fewer stigmas held by the Dutch police about male victims of sexual assault than by American police. This difference may be caused by the specialized training of the detectives who handle sexual assault cases in the Netherlands. Our findings suggest than while male victims may fear or expect not to be taken seriously by the police, the Dutch police provides equal care to both female and male victims of sexual assault. However, further research is needed to explore the stigmas and rape myth acceptance of the Dutch police. Additionally, Dutch police policy for reporting sexual assault stipulates that victims must be fully informed about the process and consequences of reporting sexual assault, in order to facilitate an informed decision for reporting. After this 'informed conversation' victims may still choose not to make an official report. Possibly, this policy reduces differences between male and female victims in reporting by reducing victims' fears.

Limitations

The current study has several limitations. First, while general information of the victim's use of services in the SACs was used, there were no details available about this service use. Due to its quantitative approach, the current study does not explore the reasons for this use of services, even though there are several reasons to accept

or refuse specific care offers. For example, victims may refuse medical care because of a previous visit to the GP or community health service (Centrum Seksueel Geweld, 2020). Additionally, victims may not be referred for post-SAC mental health care because they claim that they do not need it, or because they are already in care. Although this study found the service use to be equal for both male and female victims, there may still be differences in the motivations for accepting or refusing care. Future qualitative research should aim to gain insight in the victims' different types of motivations. Second, this study has no information on follow-up care, including follow-up medical visits for STD testing and follow up psychological counselling. The timing of referral to mental health care is also unknown, but victims can be referred immediately at intake, after a month of counselling or later. Therefore, no conclusions can be drawn on differences in the intensity or duration of service use between male and female victims. Lastly, the current study has been limited to only male and female victims, considering gender as binary. Specific needs have therefore not been examined for victims who do not identify themselves (exclusively) as male or female, such as transgender or non-binary people.

CONCLUSION

The present study found that male victims in a Dutch SAC were less likely to get in contact with the police than female victims, indicating the need for medical and psychological SAC personnel to further discuss police involvement with male victims. In contrast to previous research, the present study found no differences between male and female victims in assault characteristics and medical and psychological service use, nor in forensic care after the police was contacted. We can therefore conclude that SAC services are just as suitable for male victims as for female victims, and that the collaboration within the SACs can provide specialized medical, forensic and psychological care that is equally arranged for, and used by, male and female victims.

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PART 2

THE EFFECTIVENESS OF EMDR THERAPY AS AN EARLY INTERVENTION AFTER RAPE

CHAPTER 4

DO EARLY INTERVENTIONS PREVENT PTSD? A SYSTEMATIC REVIEW AND META-ANALYSIS OF THE SAFETY AND EFFICACY OF EARLY INTERVENTIONS AFTER SEXUAL ASSAULT

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European Journal of Psychotraumatology (2019); 10(1), 1682932

ABSTRACT

Objective

To review the safety and efficacy of early interventions after sexual assault in reducing or preventing posttraumatic stress disorder (PTSD).

Method

Systematic searches were performed on studies (1980 - 2018) that examined the efficacy of interventions for PTSD within 3 months after sexual assault.

Results

The review identified 7 studies (*n* = 350) with high risk of bias that investigated 5 interventions. Only 2 studies reported on safety. Contact with the authors of 6 studies provided no indications for the occurrence of adverse events. Two studies reported the efficacy using PTSD diagnosis as dependent variable, but found no difference between groups. All studies reported on efficacy using PTSD severity as dependent variable. For the meta-analysis, 4 studies (*n* = 293) were included yielding significantly greater reductions of PTSD severity than standard care at 2 to 12 months follow-up (*g* = -0.23, 95% CI [-0.46, 0.00]), but not at 1 to 6 weeks post-intervention (*g* = -0.28, 95% CI [-0.57, 0.02]). The heterogeneity of the interventions precluded further analyses.

Discussion

Findings suggest that early interventions can lead to durable effects on PTSD severity after sexual assault. However, due to limited availability of data it is impossible to draw definite conclusions about safety and efficacy of early interventions, and their potential to prevent PTSD.

Sexual assault or rape is a highly common trauma with an estimated lifetime prevalence of up to 10% (Kessler, Sonnega, Bromet, Hughes & Nelson, 1995; FRA, 2015; Benjet et al., 2016). In the aftermath of sexual assault 30-50% of rape victims develop posttraumatic stress disorder (PTSD; e.g., Elklit & Christiansen, 2010; Kessler et al., 1995; Möller, Bäckström, Söndergaard & Helström, 2014; Rothbaum, Foa, Riggs, Murdock & Walsh, 1992; Steenkamp, Dickstein, Salters-Pedneault, Hofmann & Litz, 2012; Zinzow et al., 2012), with a mean duration of nine years and two months (Kessler et al., 2017). PTSD has marked consequences on victims' social, interpersonal, and occupational functioning (Perilloux, Duntley & Buss, 2012). Given the high prevalence of sexual assault and its severe and long-lasting consequences, there is a great need for effective interventions after sexual assault.

An important issue that arises in developing and implementing such interventions is their timing. PTSD symptoms usually stabilize at three months post-trauma (American Psychiatric Association [APA], 2013). As such, late intervention can be defined as any treatment applied three months or more post-trauma. The effectiveness of late interventions is well-documented by systematic reviews (Regehr, Alaggia, Dennis, Pitts & Saini, 2013; Vickerman & Margolin, 2009) and these are integrated into international treatment guidelines (National Institute for Health and Care Excellence [NICE], 2018; APA, 2017; National Health and Medical Research Council [NHMRC], 2013; World Health Organization [WHO], 2013; WHO, 2017; International Society for Traumatic Stress Studies [ISTSS], 2018). Nonetheless, these interventions are not effective for all victims of sexual assault. In a systematic review of rape intervention research Vickerman and Margolin (2009) reported that in all these intervention studies at least one third of victims remained symptomatic at post-treatment follow-up. As such, it seems important to develop early interventions, defined as interventions within three months after the sexual assault, aimed at preventing PTSD.

As a matter of fact, there are solid arguments in favor of early interventions. Foremost, availability of effective early interventions could reduce the significant portion of sexual assault victims that currently goes on to develop PTSD and is burdened for many years after. Prevention of PTSD could also reduce the risk of comorbid problems such as substance dependence, depression, anxiety, and suicidality (Galatzer-Levy, Nickerson, Litz, & Marmar, 2013). A second argument in favor of early intervention is economics. Sexual assault is a notable economic burden for society. For example, the cost of adult rape victims in the United States in 2014 was more than 3.1 trillion dollars, allocating more than 2 trillion dollars to the costs of victims' mental health problems (Peterson, DeGue, Florence, & Lokey, 2017). Thus, early intervention might reduce these costs. A third argument concerns the access to victims. The early stages after sexual assault

provide unique access to these victims when they contact rape crisis centers, present themselves at hospitals for forensic examinations, or receive medical care for physical injuries and/or preventative measures for sexually transmitted diseases and pregnancy (Price, Davidson, Ruggiero, Acierno, & Resnick, 2014; Miller, Cranston, Davis, Newman & Resnick, 2015). Hence, early intervention in a multidisciplinary setting can reach the many victims who otherwise do not seek help for the psychological sequelae of sexual assault until years later (Ahrens, Campbell, Ternier-Thames, Wasco & Sefl, 2007; Ullman, 2007; Walsh, Banyard, Moynihan, Ward & Cohn, 2010).

In line with these arguments, international treatment guidelines on PTSD also recommend intervention for those with severe posttraumatic stress symptoms, as well as psychological monitoring for those with mild posttraumatic stress symptoms immediately post-trauma (ISTSS, 2018; NICE, 2018; APA, 2017; NHMRC, 2013; WHO, 2013; WHO, 2017). The most recent treatment guidelines further acknowledge that there is emerging evidence for the prevention of PTSD with single session EMDR therapy, debriefing supplemented with cohesion training exercises, brief dyadic therapy and self-guided internet based interventions (ISTSS, 2018). Nevertheless, these guidelines acknowledge that the level of evidence for these recommendations is low. One meta-analysis that examined the efficacy of early intervention in victims of varied forms of trauma found that the effectiveness of early intervention is not superior to no intervention in reducing PTSD symptoms, nor in preventing the development of PTSD (Roberts, Kitchiner, Kenardy & Bisson, 2009). However, these findings may not be applicable to sexual assault victims, as they comprise a subset of trauma victims who are at the highest risk of developing PTSD. In fact, the World Mental Health Surveys reported that 30% of rape victims developed PTSD compared to 4% of all trauma-exposed individuals (Kessler et al., 2017). Dworkin and Schumacher (2016) conducted a systematic review of post-rape help-seeking behavior and posttraumatic stress and reported that some studies suggest that early psychological intervention could reduce the risk of posttraumatic stress.

It is important to note that to date, no meta-analysis or (systematic) review has been conducted on the safety and efficacy of data specifically pertaining to early interventions after sexual trauma. The cause of this lack of research may lie in a number of arguments that have been raised against the application of early interventions. Firstly, posttraumatic stress symptoms are likely to regress naturally during the first three months after sexual assault. For example, up to 94% meets the criteria (aside from the criterion of symptom duration) for a PTSD diagnosis one week following sexual assault, while only 45-48% meets these criteria after three months (Elklit & Christiansen, 2010; Rothbaum et al., 1992; Steenkamp et al., 2012). Secondly, mental

health treatments are time-intensive as well as expensive whereas mental health professionals are scarce. Therefore, some scholars regard it an unnecessary use of valuable resources to intervene at an earlier stage (McNally, Bryant & Ehlers, 2003), and recommend that interventions should be postponed until PTSD has developed and can be determined. Thirdly, and probably most important, meta-analyses of controlled studies on the effectiveness of psychological debriefing immediately post-trauma have found the use of early intervention ineffective or even harmful (Rose, Bisson, Churchill & Wessely, 2002; Van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002), resulting in debate about the safety of early interventions (Litz, Gray, Bryant, & Adler, 2006).

Examining the impact of early interventions on PTSD is important for the development of treatment directives and clinical decision-making. To determine whether early interventions after sexual assault - other than psychological debriefing - should be implemented, we conducted a systematic literature review and meta-analyses to synthesize the existing evidence on early interventions after sexual assault and to determine their safety, efficacy in preventing PTSD. It was hypothesized that early intervention would be safe and efficacious in preventing PTSD and reducing PTSD symptom severity.

METHODS

This systematic literature review is conducted according to the guidelines of the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2011) and reported following the PRISMA Statement (Liberati et al., 2009).

Criteria for the selection of studies

Types of studies

For the current review any type of intervention study was eligible. Both randomized and non-randomized trials were considered. Studies had to be reported in English or Dutch.

Types of participants

The studies should include participants that experienced a sexual trauma within 3 months prior to the intervention. Sexual trauma was defined as any type of nonconsensual sexual activity including oral, vaginal or anal penetration or any other type of sexual assault. Three months was chosen as a timeframe for an early intervention, because PTSD symptoms usually begin within that timeframe (APA, 2013). Studies were also excluded if participants were younger than 16 years old, because trauma responses including PTSD are expressed differently in children (APA, 2013).

Types of intervention

Any type of intervention aimed at treating or preventing posttraumatic stress was eligible with the exception of psychological debriefing. Psychological debriefing was excluded because it has been found detrimental to the treatment of sexual assault victims as evidenced by Rose et al. (2002) in a Cochrane review on psychological debriefing for preventing PTSD.

Types of outcome

Finally, studies were eligible for inclusion if they measured the outcome of the intervention in terms of PTSD symptom decrease or meeting the criteria of a PTSD diagnosis. This could be either a primary or secondary outcome measure of the study and could be reported as any statistical parameter.

Search methods for identification of studies

For this literature review systematic searches were performed of the following databases: MEDLINE, Embase, CINAHL, PsycINFO, the Social Sciences Citation Index and the Cochrane database. The full search strategies for each database can be found in Appendix A. Boolean operators were used to create search strings searching for studies about sexual trauma, intervention or prevention, and PTSD. Each search string included a concept to exclude studies targeting children or childhood sexual abuse, using the search term 'child*'. The search strings were limited to include records published from 1 January 1980, because PTSD did not exist as a diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM) before 1980 (APA, 1968). The search was executed on 30 April 2018.

Meta-analyses and systematic reviews were only excluded at the full-text assessment stage. Additionally, the references listed in all included studies were reviewed as well as the articles listed as citing the included studies in Google Scholar.

Data collection and analysis

Methods for the selection of studies

The search results from the different databases were merged in Rayyan, a website for systematic reviews (Ouzzani, Hammady, Fedorowicz & Elmagarmid, 2016), and duplicate records were removed. The first two review authors independently screened titles and abstracts of the remaining records to identify those that needed to be examined in full-text. This resulted in 2.9% disagreement between authors, which was resolved by discussion. Both authors also independently assessed the full-text reports on the eligibility criteria. The 4% disagreement was solved by discussion and usually stemmed from inaccuracy from either one of the authors.

Data extraction and management

Both authors independently extracted the relevant data from the included studies which pertained to details of the studies' setting, eligibility criteria, procedure of randomization and blinding, participant characteristics, outcome measures, follow-up, results, analysis, drop-out rates, reasons for drop-out, (serious) adverse events, and main conclusion and topics of discussion. Minor disagreements about randomization and drop-out rates were solved by discussion.

Data analysis

For each study, the first two review authors independently assessed the risk of bias using the Cochrane tool of Bias. A qualitative synthesis was conducted by comparing the included studies on the extracted data. Two meta-analyses were conducted to analyze the effect of early intervention compared to standard care on PTSD symptom severity at first post-treatment assessment and longest follow-up. Because the studies utilized different instruments to measure PTSD, the standardized mean differences (i.e., Hedges' g) were calculated. Due to clinical heterogeneity in interventions, measures and timing of measurements, random effects models were chosen. Resnick et al. (2007) and Miller et al. (2015) reported means and standard deviations separately for victims with and without prior rape history. However, prior rape history was not of interest for the present study. Therefore, the means and standard deviations in the intervention and control groups of all rape victims were calculated by pooling the standard deviations and means of those with and without prior rape history. Review Manager (2014) was used to conduct the meta-analyses and to produce the forest plots as well as the summary graph of the risk of bias.

RESULTS

Results of the search

Figure 1 depicts a flowchart of the search process. Ultimately, seven studies reported in nine records met the eligibility criteria and were included in the qualitative synthesis presented in this review. The study reported by Resnick et al. (2007) was preliminary reported by Resnick, Acierno, Holmes, Kilpatrick and Jager (1999) and Resnick, Acierno, Kilpatrick and Holmes (2005). Because the longest follow-up of the largest population is reported in Resnick et al. (2007), this record was used in the qualitative synthesis of this review.

Included studies

The seven included studies were all reported in English. Table 1 shows an overview of the characteristics of these studies.

Setting

The studies were conducted in high-income countries, generally among individuals seeking medical, forensic or psychological care/examination.

Participants

The studies exclusively included sexual assault victims, except for Rothbaum et al. (2012), who recruited all participants presenting at a hospital emergency department but reported results of rape victims separately. Sexual assault was generally not further defined, meaning it could include, but was not limited to, unwanted oral, anal, or vaginal penetration. The inclusion period ranged from 72 hours through 3 months after the assault. The majority of the participants was female. The mean age of the participants in the various studies ranged from 22 years to 33.8 years.

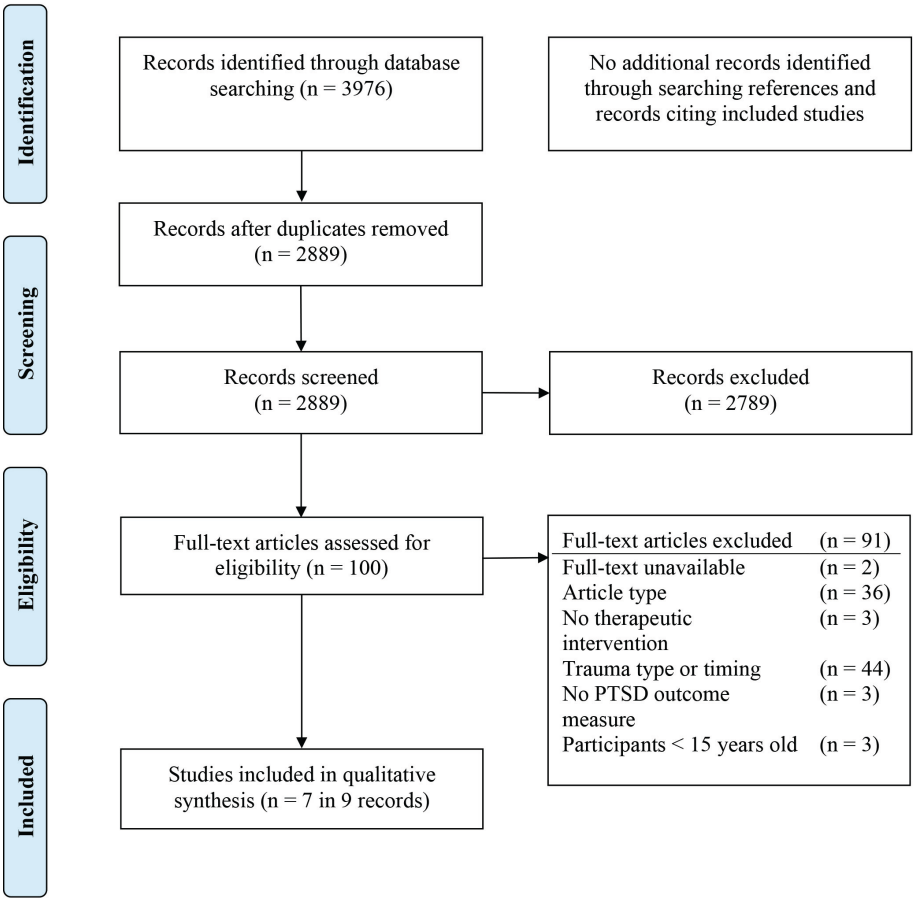

Figure 1. Flow diagram of the study selection process. PTSD = Posttraumatic stress disorder. Adapted from 'preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement' (Moher, Liberati, Tetzlaff, Altman, & the PRISMA group, 2009).

Table 1. Characteristics of included studies.

Citation	Country	Setting	N in analysis	Participant characteristics	Main inclusion criteria	Main exclusion criteria	Interventions	Sessions
Echeburúa et al. (1996)	Spain	Seeking treatment at psychological counseling centers	20	Females Age: 22 yrs SD = 6.9	Sexual aggression < 3 months Meeting DSM-III-R criteria for PTSD	Severe mental illness Severe physical illness	Cognitive restructuring, coping skills training and progressive muscular relaxation training vs. progressive muscular relaxation training	5 weekly 60-minute sessions
Resnick et al. (2007)	United States	Seeking forensic examination at an academic medical center	140	Females Age: 26.1 yrs SD = 9.8	Sexual assault < 72 hours	Severe mental illness Severe physical illness Intoxication Intellectual disability	Pre-examination video intervention vs. standard care	Single 17-minute video
Rothbaum et al. (2012)	United States	Public hospital emergency department	47	65% females Age: 31.5 yrs SD NR	Trauma < 72 hours	Intoxication No memory of event	Modified prolonged exposure session vs. standard care	3 weekly 60-minute sessions
Tarquinio et al. (2012a)	France	Via research center, family doctor or regional victim aid associations	17[a]	Females Age: 32.2 yrs SD = 9.1	Sexual trauma 24-72 hours ago First time Filed police complaint	Severe mental illness Severe physical illness Intoxication Intellectual disability	Newly integrated EMDR protocol	Single 113-minute session
Tarquinio et al. (2012b)	France	Referral via psychologists of regional victim aid associations	6[a]	Females Age: 33.8 yrs SD = 7.4	Sexual assault 8-12 weeks ago By intimate partner Filed police complaint No previous similar trauma	Severe mental illness Severe physical illness Intoxication Intellectual disability	Standard EMDR treatment protocol according to Shapiro (2001)	3-4 weekly 60-minute sessions

Table 1. (Continued)

Citation	Country	Setting	N in analysis	Participant characteristics	Main inclusion criteria	Main exclusion criteria	Interventions	Sessions
Miller et al. (2015)	United States	Via specialized nurse examiners at local hospital	69-74[b]	Females Age: 28.8 yrs SD = 10.5	Sexual assault < 72 hours	Severe mental illness Severe physical illness Intoxication Intellectual disability No memory of event	Postexamination video intervention + standard care vs. standard care	Single 9-minute video
Nixon et al. (2016)	Australia	Seeking treatment at a sexual assault crisis center	46[c]	Females Age: 31.3 yrs SD = NR	Rape or sexual assault < 1 month Meeting criteria for ASD	Severe mental illness Intoxication Intellectual disability	Cognitive processing therapy vs. standard care	6 weekly 90-minute sessions

Note. SD = standard deviation, NR = not reported, vs. = versus, DSM-III-R = Diagnostic and Statistical Manual of Mental Disorders third edition revised, ASD = acute stress disorder. [a] Initial sample size and drop-out rates not reported. [b] Depending on follow up. [c] Using multiple imputation by chained equations.

Intervention

The seven studies investigated a multitude of different interventions (Table 1). On average, participants received three-and-a-half sessions in the active trial phase. Two studies of the same research group investigated the addition of a video intervention to a forensic examination. Immediately preceding the forensic examination, Resnick et al. (2007) showed participants a video that was designed to reduce distress during the forensic examination and provide psychoeducation on coping strategies and substance abuse prevention. Using only the psychoeducational and coping strategies components of the video used in the study of Resnick et al. (2007), Miller et al. (2015) showed participants in their intervention group the adapted video immediately after forensic examination.

Control

Four of the seven studies contained a control group in which the participants received standard care. The standard care in the two video intervention studies (Resnick et al., 2007; Miller et al., 2015) consisted of the forensic rape examination accompanied by a rape crisis counsellor, who provided information about the examination and services available in the community. The standard care in the study of Nixon et al. (2016) combined methods ranging from psychoeducation, supportive counselling, problem solving, interpersonal therapy elements of mindfulness, acceptance and value-based techniques to discussion of thoughts and feelings. Notably, over the course of the study, participants in the standard care group received more sessions than those receiving cognitive processing therapy. Rothbaum et al. (2012) provided few details about the standard care. However, their control group seemed to receive only medical emergency care, which might be comparable to the standard care of Resnick et al. (2007) and Miller et al. (2015). The two pilot EMDR studies (Tarquinio, Brennstuhl, Reichenbach, Rydberg & Tarquinio, 2012a; Tarquinio, Schmitt, Tarquinio, Rydberg, & Spitz, 2012b) did not contain a control group and Echeburúa, de Corral, Sarasua and Zubizarreta (1996) compared two interventions.

Outcome measure

Two studies (Echeburúa et al., 1996; Nixon et al., 2016) reported on the categorical outcome measure of a PTSD diagnosis. PTSD symptom severity was a primary outcome measure of all studies. Miller et al. (2015), Resnick et al. (2007) and Rothbaum et al. (2012) used the PTSD Symptom Scale (PSS) for the DSM-IV and Echeburúa et al. (1996) used the PSS for the DSM-III-Revised (DSM-III-R). Two studies (Tarquinio et al., 2012a; Tarquinio et al., 2012b) used the Impact of Events Scale (IES; Horowitz, Wilner & Alvarez, 1979), which is a self-report measure of post-trauma intrusions and avoidance symptoms. The hyperarousal dimension of PTSD is not tested in the IES. Lastly, Nixon et al. (2016) used the Clinician-Administered PTSD Scale (CAPS), which is a structured clinical interview assessing PTSD symptoms according to DSM-IV criteria.

Risk of bias of included studies

The risk of bias as assessed by the Cochrane Tool of Bias is summarized for each study in Figure 2. Appendix B contains the judgment of the risk of bias of the individual studies. While all five studies comparing different treatment groups claimed to be randomized trials, true randomization only occurred in two of them (Rothbaum et al., 2012; Miller et al., 2015), meaning that the other studies risk selection bias due to quasi-randomization (Higgins & Green, 2011). Furthermore, although blinding participants and personnel in psychological interventions is impossible, it is possible to blind the outcome assessment. Of the five studies comparing two interventions, only Echeburúa et al. (1996) failed to blind the outcome assessment by having one therapist performing both the therapy and the outcome assessment. Two studies might have been exposed to attrition bias as they reported an as treated analysis while having significant drop-outs (50-64% in Miller et al. (2015) and 38% in Resnick et al. (2007)). The study of Miller et al. (2015) was the only one that was selective in reporting outcome data. They carried out many analyses between different subgroups of their participants, but only reported exact data of significant differences. Other comparisons were only mentioned in passing: "No other statistically significant results were found" (p.133).

Reporting of safety and harms

None of the studies reported a strategy for collecting or analyzing harms-related information. Accordingly, five studies did not report any data on (serious) adverse events (i.e. fatal or life-threatening events, events that require hospitalization or cause invalidity or disability). Rothbaum et al. (2012) and Nixon et al. (2016) appeared to have adopted a passive strategy of the surveillance of harms, as their results sections stated that there were no (serious) adverse events reported. In addition, most studies did not report drop-outs or the reasons for attrition. Nixon et al. (2016) reported that one participant stopped treatment due to life-threatening illness. Additionally, they reported that two participants who received the intervention showed an increase in clinician reported PTSD symptom severity at some point during the trial, with one participant reporting higher PTSD symptom severity at the 12-month follow-up than at pretreatment. Due to this lack of safety data, we contacted the authors of the studies for further information and received additional information from Echeburúa et al. (1996), Tarquinio et al. (2012a), Tarquinio et al. (2012b), and Resnick et al. (2007). Echeburúa et al. (1996), Tarquinio et al. (2012a), and Tarquinio et al. (2012b) stated not to have applied a predetermined strategy for the surveillance of harms. Resnick et al. (2007) systematically asked victims about their opinion of the helpfulness of the procedures and no participants had found the trial problematic. Furthermore, Echeburúa et al (1996), Tarquinio et al. (2012a), Tarquinio et al. (2012b), and Resnick et al. (2007) reported that no (serious) adverse events had occurred.

Prevention of PTSD diagnosis

As previously mentioned, two studies reported the efficacy of the interventions on the development of PTSD after sexual assault based upon the presence of a PTSD diagnosis (Echeburúa et al., 1996; Nixon et al., 2016). When focusing on the difference between groups, Echeburúa et al. (1996) found no difference at any time point in PTSD diagnoses between the group that received cognitive restructuring training and the group that received progressive muscular relaxation training. Similarly, Nixon et al. (2016) found no difference between cognitive processing therapy and standard care in PTSD diagnoses at posttreatment and follow-up.

Reduction of PTSD symptom severity

The results of the within-group and between-group analyses of all studies on PTSD symptom severity are summarized in Table 2.

Within-group analyses of intervention

All four studies (Echeburúa et al., 1996; Nixon et al., 2016; Tarquinio et al., 2012a; Tarquinio et al., 2012b) that conducted a within-group analysis reported a significant decrease in PTSD symptom severity across the treatment up until the latest follow-up, the longest of which was 12 months. However, without comparing these results to a control group, this decrease in symptoms cannot be differentiated from natural recovery. The remaining three studies did not report a within-group analysis. For Miller et al. (2015) a within-group hedge's g was calculated using the reported means and standard deviations of the PSS total symptom scores. This revealed a significant increase in PTSD symptom severity from pretreatment to posttreatment (g = 0.90, 95% CI = 0.38, 1.41) that was no longer significant from pretreatment to the 2-month follow-up (g = 0.47, 95% CI = -0.03, 0.97). Rothbaum et al. (2012) and Resnick et al. (2007) did not collect baseline data, therefore calculating within-group analyses was not possible.

Between-group analyses comparing intervention to standard care

Four studies (Miller et al., 2015; Nixon et al., 2016; Resnick et al., 2007; Rothbaum et al., 2012) provided a between-group analysis comparing an intervention to standard care. A meta-analysis of the aggregated data of these four studies did not show a significant effect of early intervention on PTSD symptom severity at the first post-intervention follow-up, as shown in Figure 3. However, at the latest follow-up early intervention corresponded to significantly lower PTSD severity scores[2], see Figure 4. No evidence was found for an effect at the first follow-up, ranging from one to six

2 The Hedges' g and confidence interval that we calculated for Rothbaum et al. (2012) differs from their reported values. From personal communications with the authors, these differences are allocated to their use of covariates in their analysis.

weeks post-intervention (random effects) (k = 4, n = 292, *g* = -0.28, 95% CI = -0.57, 0.02). However, a trend in favor of early intervention can be found in all four studies. There was a moderate level of statistical heterogeneity (I^2 = 33%). At the last follow-up, ranging from two to twelve months post-intervention, a modest effect of the early intervention on PTSD symptom severity just reached significance (random effects) (k = 4, n = 293, *g* = -0.23, 95% CI = -0.46, 0.00). There was no statistical heterogeneity (I^2 = 0%).

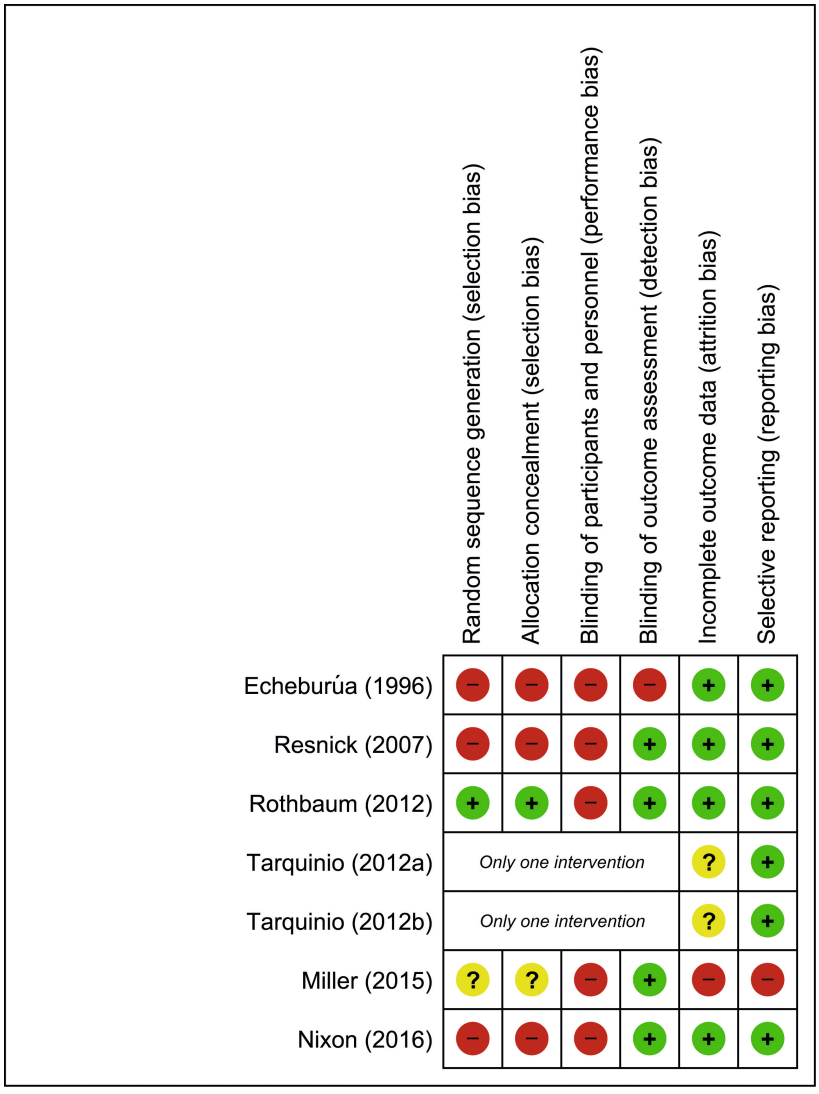

Figure 2. Risk of bias summary of included studies. The minus sign represents a high risk of bias, the plus sign a low risk of bias, and the question mark an unclear risk of bias. Produced using Review Manager (RevMan) [Computer program]. Version 5.3. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014.

Table 2. Effects of Interventions of Included Studies.

Citation	Follow-up	Outcome measure	Within-group analysis in intervention group	Between-group analysis
Echeburúa et al. (1996)	Posttreatment 1, 3, 6, 12 mth	PSS-I	Significant decrease in PTSD scores in both cognitive restructuring and progressive muscular relaxation groups.	Significantly lower PTSD scores in the cognitive restructuring group than the progressive muscular relaxation group.
Resnick et al. (2007)	6 wks 6 mth	PSS-SR	*No baseline data collected.*	No significant difference in PTSD scores between the video intervention and standard care.
Rothbaum et al. (2012)	4, 12 wks	PSS-I	*No baseline data reported for rape victims separately.*	Significantly lower PTSD scores in the modified prolonged exposure session than assessment only.
Tarquinio et al. (2012a)	Pretreatment Posttreatment 4 wks, 6 mth	IES	Significant decrease in PTSD scores in EMDR participants.	*Only one intervention, so no between-group analysis*
Tarquinio et al. (2012b)	Pretreatment Posttreatment	IES	Significant decrease in PTSD scores in EMDR participants.	*Only one intervention, so no between-group analysis*
Miller et al. (2015)	Pretreatment 2 wks, 2 mth	PSS-SR	Significant increase in PTSD scores at 2-wks follow-up, but not at 2-mth follow-up.[a]	No significant difference in PTSD scores between the video intervention and standard care.
Nixon et al. (2016)	Pretreatment 1 wk 3, 6, 12 mth	CAPS	Significant decrease in PTSD scores in the cognitive processing.	Between-group differences remained stable across treatment, indicating that there was no difference between cognitive processing therapy and standard care.

Note. mth = month(s), PSS-I = PTSD Symptom Scale Interview, PTSD = Posttraumatic Stress Disorder, wks = weeks, PSS-SR = PTSD Symptom Scale Self-Report, NR = not reported, IES = Impact of Events Scale, EMDR = Eye Movement Desensitization and Reprocessing, wk = week, CAPS = Clinician-Administered PTSD Scale.
[a]Within-group analysis calculated from reported means and standard deviations at pretreatment and follow-up assessments.

	Intervention			Standard care				Std. Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year
Resnick (2007)	21.99	11.29	68	23.61	12.14	72	39.1%	-0.14 [-0.47, 0.19]	2007
Rothbaum (2012)	20.1	12.59	28	30.45	11.9	19	18.2%	-0.83 [-1.43, -0.22]	2012
Miller (2015)	38.37	9.95	27	38.98	9.14	32	23.3%	-0.06 [-0.58, 0.45]	2015
Nixon (2016)	36.5	31.81	24	45.72	27.67	22	19.4%	-0.30 [-0.89, 0.28]	2016
Total (95% CI)			**147**			**145**	**100.0%**	**-0.28 [-0.57, 0.02]**	

Heterogeneity: Tau² = 0.03; Chi² = 4.43, df = 3 (P = 0.22); I² = 32%
Test for overall effect: Z = 1.83 (P = 0.07)

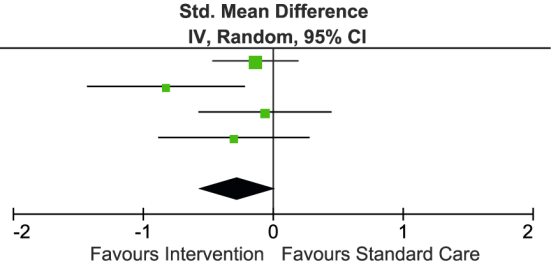

Figure 3. Forest plot of comparison: intervention versus standard care. Outcome: severity of PTSD symptoms at first follow-up. The first follow-up post-intervention was: for Resnick et al. (2007) six weeks, for Rothbaum et al. (2012) 4 weeks, for Miller et al. (2015) 2 weeks and for Nixon et al. (2016) 1 week. Produced using Review Manager (RevMan) [Computer program]. Version 5.3. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014.

	Intervention			Standard care				Std. Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	Year
Resnick (2007)	14.92	11.62	68	15.58	11.32	72	48.7%	-0.06 [-0.39, 0.27]	2007
Rothbaum (2012)	16.63	16.14	28	25.04	14.69	19	15.2%	-0.53 [-1.12, 0.06]	2012
Miller (2015)	32.67	11.23	27	36.15	11.6	33	20.4%	-0.30 [-0.81, 0.21]	2015
Nixon (2016)	31.19	29	24	42.59	30.32	22	15.7%	-0.38 [-0.96, 0.21]	2016
Total (95% CI)			**147**			**146**	**100.0%**	**-0.23 [-0.46, 0.00]**	

Heterogeneity: Tau² = 0.00; Chi² = 2.35, df = 3 (P = 0.50); I² = 0%
Test for overall effect: Z = 1.94 (P = 0.05)

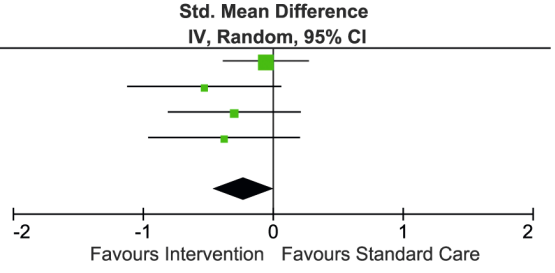

Figure 4. Forest plot of comparison: intervention versus standard care. Outcome: severity of PTSD symptoms at latest follow-up. The latest follow-up was: for Resnick et al. (2007) 6-months post-intervention, for Rothbaum et al. (2012) 12 weeks, for Miller et al. (2015) 2 months and for Nixon et al. (2016) 1 year. Produced using Review Manager (RevMan) [Computer program]. Version 5.3. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014.

DISCUSSION

The goal of this study was to review the safety and efficacy of early interventions in reducing or preventing PTSD after sexual assault. The systematic review identified seven studies that met the eligibility criteria. The included studies investigated a range of different interventions, including EMDR, prolonged exposure, cognitive restructuring, cognitive processing, and a mainly psycho-educational video intervention. Due to this heterogeneity and the small number of studies, the types of interventions could not be examined separately nor compared. The studies were also diverse in research design and timing. The methodological quality of the included studies was mostly low, resulting in a high risk of selection bias.

The results firstly show that there is limited documentation on the safety of early intervention after sexual assault. Most studies did not mention safety at all. The passive surveillance of two studies reported no (serious) adverse events. Nixon et al. (2016) found a significant worsening of PTSD symptoms who received the intervention (i.e., cognitive processing therapy) as indexed by the clinical interview. However, these participants did not self-report a worsening in symptoms. In addition, an increase in PTSD symptom severity was also found in two participants in the control condition which suggests that the most likely explanation for the purported symptom increase is a natural course of symptoms. No serious adverse events were found in any of the trials (excluding Miller et al. (2015) due to lack of information). Thus, we have found no evidence to suggest early interventions after sexual assault are unsafe. However, given the debate about potential harm that can be induced by the application of early interventions for PTSD (e.g., Litz et al. 2006), it is quite noteworthy that none of the studies implemented an active strategy to identify potential harm or the occurrence of adverse events during the trial, even though such an active strategy is likely to uncover adverse events (Stephens, Talbot, & Routledge, 1998). In light of the negative effects of psychological debriefing (Rose et al., 2002), a focus on safety should be prioritized in early intervention research.

In terms of the prevention of PTSD, early interventions resulted in no fewer PTSD diagnoses than control settings. However, only two studies reported on the differences in post-intervention PTSD diagnosis between groups. The small samples and the heterogeneity of the studies preclude generalization of these findings. With regard to the efficacy of early interventions to reduce PSTD symptom severity, a significant decrease in symptom severity across post-intervention and follow-up was detected in the intervention group of all studies that reported baseline data. Meta-analyses using the data of four studies found no difference at one to six weeks post-intervention, but

revealed that early intervention generated a significantly greater reduction in PTSD symptom severity than standard care at 2-12-months follow-up. In other words, the meta-analyses were unable to find evidence for the efficacy of early intervention on a short term, but did find a trend in favor of early intervention. Additionally, the meta-analysis found evidence for long-term efficacy of early intervention in reducing the severity of PTSD symptoms.

Although this narrow-scoped review of early intervention after sexual assault has not been conducted previously, similar reviews on the broader scope of early post-trauma intervention should be considered. For example, in their review on help-seeking behavior in sexual assault victims, Dworkin and Schumacher (2016) concluded that early psychological treatment may reduce the risk of posttraumatic stress for the first few months. These findings are in line with the results of the current review. In contrast, a Cochrane review by Roberts et al. (2009) found cognitive behavioral therapy and cognitive restructuring to be the most efficacious in preventing PTSD in trauma patients. Our results do not seem to support this finding in a sample of sexual assault victims, because the two included articles that studied interventions with a cognitive element showed mixed results: More specifically, Echeburúa et al. (1996) reported cognitive restructuring to be more effective than relaxation training at 12 months, whereas Nixon et al. (2016) measured no increased efficacy of cognitive reprocessing over standard care. It should be noted that these studies used different control groups, and the findings of two studies are insufficient to reject the finding of Roberts et al. (2009). Still, the inconsistency in findings underlines the importance of examining interventions after sexual assault in homogenous samples.

The studies that were included in this systematic review show noteworthy limitations. Foremost, only seven studies were included in this review, making it difficult to draw reliable conclusions. Additionally, these studies presented methodological and statistical heterogeneity. Particularly, they included a range of interventions, making generalizations on intervention-type unreliable, and had a high risk of bias, which increases the likelihood of a Type I error (Moher et al., 1998). It should also be noted that the included studies presented PTSD symptoms as described by the DSM-III-R or DSM-IV. However, because the current DSM-5 defines PTSD differently by adding the domain of negative cognitions, no generalizations to this definition of PTSD can be made.

In light of these limitations several implications for future research can be drawn. Foremost, as stated before, the safety of early interventions should be taken into consideration in future trials: Future research should report any adverse events, drop-

outs or negative effects within the trial sample and should adopt active strategies to detect them. In addition, to determine the efficacy of early intervention in preventing PTSD diagnosis, future efficacy trials should report the prevalence of PTSD diagnosis as well as PTSD symptoms. Furthermore, future research needs to resolve differences in the wide variety of study designs in order to determine the most efficacious type, timing and length of intervention. In doing so, a focus on high quality of design is crucial to reduce the risk of bias. Lastly, future research should compare the effect of early interventions to the effect of standard treatment at a later point in time. Considering the previously stated arguments in favor of early intervention, this type of research should extend beyond the effect on PTSD, and include comorbid psychopathology, cost-effectiveness, and the accessibility for victims of sexual assault.

In conclusion, the findings of this review and meta-analyses suggest that early interventions can lead to durable effects on PTSD symptom severity reduction after sexual assault. Therefore, the present study provides support for the development of early interventions. However, due to a limited availability of data it is not yet possible to draw any definite conclusions about the safety of early interventions after sexual assault, their efficacy and their potential as a preventive treatment for PTSD. Nevertheless, the present review and meta-analysis show that, although psychological debriefing has been found to be ineffective, other interventions can be effective as early intervention after sexual assault. Therefore, we urge researchers not to shy away from this field, but instead invest in the exploration and further development of effective interventions to prevent PTSD in victims of sexual assault.

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CHAPTER 5

EARLY INTERVENTION WITH EYE MOVEMENT DESENSITIZATION AND REPROCESSING (EMDR) THERAPY TO REDUCE THE SEVERITY OF POSTTRAUMATIC STRESS SYMPTOMS IN RECENT RAPE VICTIMS: STUDY PROTOCOL FOR A RANDOMIZED CONTROLLED TRIAL

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European Journal of Psychotraumatology (2019); 10(1), 1632021

ABSTRACT

Background

It is estimated that more than 40 percent of rape victims develops a posttraumatic stress disorder (PTSD), a statistic that is relatively high compared to other types of trauma. PTSD can affect the victims' psychological, sexual, and physical health. Therefore, there is an urgent need for early interventions to prevent the onset of PTSD in this target group.

Objective

This randomized controlled trial (RCT) examines the efficacy of early Eye Movement Desensitization and Reprocessing (EMDR) therapy aimed to reduce the severity of posttraumatic stress symptoms in victims of recent rape.

Method

Subjects (N = 34) are individuals of 16 years and older who present themselves within 7 days post-rape at one of the four participating Sexual Assault Centres in the Netherlands. The intervention consists of two sessions of EMDR therapy between day 14 and 28 post-rape, while the control group receives treatment as usual, consisting of careful monitoring of stress reactions by a case-manager across two contacts during one month post-rape. Baseline assessment, posttreatment assessment and follow-up assessments at 8 and 12 weeks post-rape will be used to assess the development of posttraumatic stress symptoms. In addition, the efficacy of the intervention on psychological and sexual functioning will be determined. Linear mixed model analysis will be used to explore the differences within and between the EMDR group and control group at the various time points.

Conclusion

The results of this RCT may help the dissemination and application of evidence-based preventative treatments for PTSD after rape.

Victims of rape are at high risk of developing a wide array of psychological problems, including substance abuse, depression, dissociation, sexual disorders, anxiety disorder, and suicidal ideation (Faravelli, Giugni, Salvatori, & Ricca, 2004; Galatzer-Levy, Nickerson, Litz, & Marmar, 2013; Ozer & Weiss, 2003; Tiihonen Möller, Bäckström, Söndergaard, & Helström, 2014; Weaver et al, 2007), as well as feelings of shame and guilt about the assault (Aakvaag et al., 2016). Additionally, rape victims often experience involuntary motor inhibition known as tonic immobility during the assault, which has been linked to the development of psychopathology (Möller, Söndergaard, & Helström, 2017). Most prominently, rape is associated with the development of posttraumatic stress disorder (PTSD), as it has been estimated that 94% of the rape victims suffer from posttraumatic stress symptoms in the immediate aftermath of the event (Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). Although these reactions typically alleviate over time, the risk of developing PTSD is relatively high compared to other types of traumatic events, with rates up to 47% at three months post-rape (Elklit & Christiansen, 2010; Rothbaum et al., 1992; Tiihonen Möller et al., 2014). PTSD is diagnosed when patients suffer from intrusion symptoms (e.g., intrusive memories), avoidance of trauma-related internal (thoughts and emotions) or external (e.g., people or places) stimuli, negative cognitions and mood (e.g., distorted beliefs regarding blame), and heightened arousal (e.g., reckless behaviour; American Psychiatric Association, 2013) for at least one month. In rape victims, PTSD appears to be a risk factor for revictimization, meaning that those who developed PTSD after being raped are significantly more likely to being raped again, compared to victims who do not develop PTSD (Messman-Moore, Ward, & Brown, 2009). Thus, post-rape psychological problems, including PTSD, present a burden to both the individuals' personal quality of life and the public health system by affecting their sexual, social, and physical health (Brunello et al., 2001; McFarlane, 2010).

Regarding the treatment of PTSD, meta-analyses (Chen et al., 2014) and treatment guidelines (e.g. American Psychiatric Association, 2017; International Society for Traumatic Stress Studies (ISTSS), 2018; US Department of VA/DoD, 2016; World Health Organization, 2013) recommend the application of Cognitive Behaviour Therapy (CBT) or Eye Movement Desensitization and Reprocessing (EMDR) Therapy. While the guidelines for PTSD treatment are well-defined, at present there is no strong recommendation for evidence-based interventions available for acutely traumatized individuals (ISTSS, 2018). Research that would identify a short-term, cost-effective, and easily dispersed post-rape intervention is thus extremely important, particularly given the high risk of developing PTSD sequelae and its significant public health impact (McFarlane, 2010). For this purpose several interventions have been developed (Oosterbaan, Covers, Bicanic, Huntjens, & De Jongh, manuscript submitted for publication). More specifically, four studies report on the efficacy of early intervention in reducing PTSD symptom severity

when applied within the first month post-rape. The first study is a randomized controlled trial (RCT) that investigated the efficacy of three one-hour sessions of prolonged exposure therapy starting within one day post-rape with 137 trauma victims (including 47 rape victims). It was found that posttraumatic stress symptom severity decreased significantly more for the rape victims in the intervention condition than those in the control condition (i.e. assessment-only) after four and 12 weeks (Rothbaum et al., 2012). A second RCT determined the efficacy of one 17-minute psycho-education video in reducing posttraumatic stress symptom severity in 140 victims of sexual assault with prior rape history within the first three days post-rape (Resnick et al., 2007). They found a significantly larger reduction in posttraumatic stress symptoms at six months post-rape compared to the assessment-only control group. However, when this study was replicated in a sample of victims with no prior rape history, no effect was found (Miller, Cranston, Davis, Newman, & Resnick, 2015). Finally, a non-controlled pre-post study on EMDR therapy within three days post-assault reported on the treatment of 17 victims of sexual assault. The results showed a significant reduction in posttraumatic stress symptoms and sexual problems, which remained stable at four weeks and six months after the intervention (Tarquinio, Brennstuhl, Reichenbach, Rydberg, & Tarquinio, 2012). Thus, a limited number of studies with small samples provide preliminary evidence for the efficacy of early interventions following rape in terms of an ameliorating effect on posttraumatic stress symptoms.

Concerning early post-rape intervention no RCTs using EMDR therapy have been conducted to date. However, in recent years, several RCTs have found early EMDR therapy to be more efficacious in reducing posttraumatic stress symptoms than delayed treatment in victims of earthquakes (Jarero, Artiga, & Luber, 2011), missile attacks (Shapiro & Laub, 2015; Shapiro, Laub, & Rosenblat, 2018), workplace violence (Tarquinio et al, 2016), and traumatized first responders (Jarero, Amaya, Givaudan, & Miranda, 2013). In these studies, the control groups received treatment within one month after the intervention group. Therefore, the long-term effect (at three to six month follow-ups) of early EMDR therapy is difficult to determine. Still, these preliminary findings underline the relevance of studying early EMDR treatment in rape victims.

Aims

The aim of the current study is to determine the efficacy of Early EMDR therapy on posttraumatic stress symptoms, psychological and sexual function, and guilt/shame in victims of rape. Our primary hypothesis is that individuals who have very recently been exposed to a rape and who receive Early EMDR therapy would demonstrate significantly less self-reported and clinician-reported posttraumatic stress symptoms at posttreatment and eight and 12-weeks post-rape follow-ups than those who receive

treatment as usual. Second, it is hypothesized that victims of rape who receive early EMDR therapy would demonstrate a significantly lower level of psychological and sexual dysfunction, and guilt/shame at posttreatment and both follow-ups than victims who receive treatment as usual. Further, the direct effect of the early EMDR treatment will be examined using ratings of trauma memory vividness and emotionality (see Littel, van Schie, & van den Hout, 2017; Van Veen et al., 2015). It is hypothesized that vividness and emotionality would decrease significantly more between pretreatment, posttreatment, and follow-ups in the victims who receive EMDR than in those who receive treatment as usual. Finally, this study will examine representation and fragmentation of trauma memory and the extent to which peritraumatic tonic immobility during rape occurs.

METHODS/DESIGN

Study design

This study is designed as a longitudinal randomized controlled trial (RCT), which allows us to determine the effect of early EMDR on the development of posttraumatic stress symptoms compared to treatment as usual. Subjects will be randomized to either the Early EMDR intervention or the control condition (treatment as usual). Over the course of three months, subjects will be assessed at four time points: pretreatment at two weeks post-rape, posttreatment at one week posttreatment, and follow-ups at eight weeks and 12 weeks post-rape. A block randomization sequence is computer-generated per participating centre and the allocation of the participants will be blinded for the trained master level psychology students who conduct the initial and follow-up assessments.

Research setting

The Netherlands currently has 16 specialized sexual assault centres that integrate acute medical, forensic and psychological care for recent victims of sexual assault. Four of these centres will participate and collaborate in this study. All these sexual assault centres are located in urban areas. In each centre, a principle investigator, case managers and therapists are involved in carrying out the study. Psychology students conduct the assessments.

Participants

For this study, rape has been defined as self-reported oral, vaginal or anal penetration without consent. Victims are excluded from the present study if the assault experience that they describe does not comply with this strict definition of penetration. Also, victims are excluded if they do not speak Dutch or are younger than 16 years old.

Furthermore, victims who are already receiving trauma-focused treatment or suffer from acute psychosis, substance abuse or suicidal ideation that requires for immediate care are excluded from study participation to prevent interference. Victims with intellectual disabilities (e.g., victims following special education or living in specialized housing facilities) are also excluded. Figure 1 shows the expected eligibility, exclusion, and drop-out of the study. Drop-out is defined as participants who are lost to follow-up. Treatment noncompliance is not considered drop-out when participants are still available for assessments. Dropout rates are modelled after those of Rothbaum et al. (2012), who performed a similar trial.

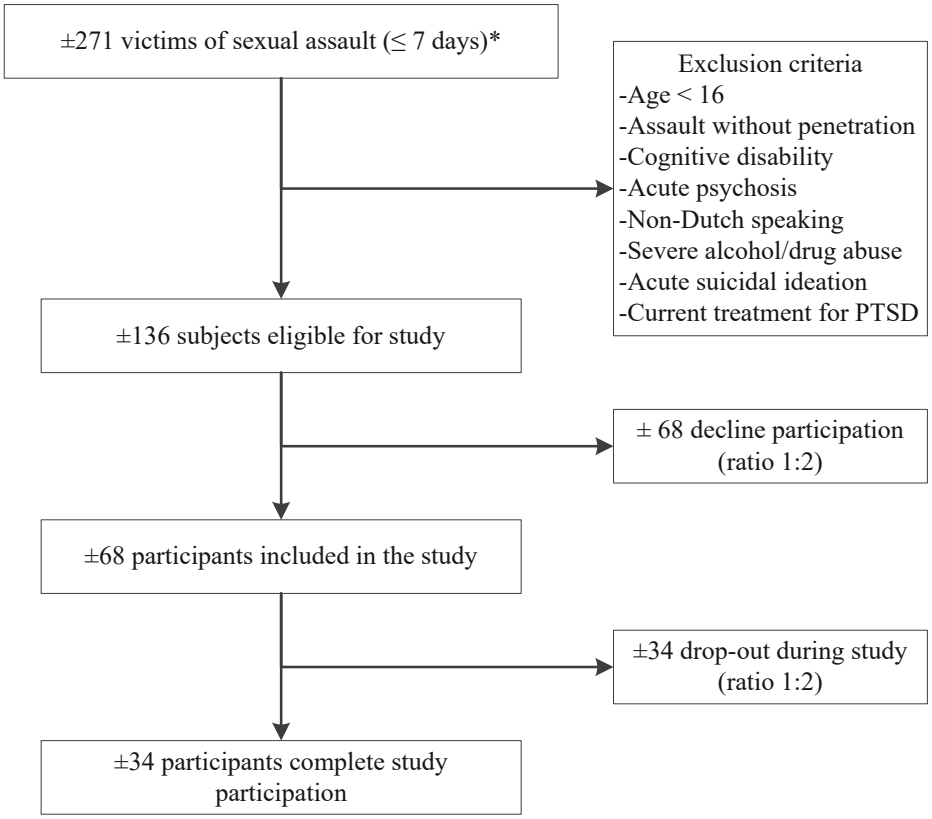

Figure 1. Flow chart of estimated subject inclusion

** Based on annual report 2016 Dutch Rape Centres*

Interventions

Subjects who are randomly allocated to the intervention condition will receive two sessions of Early EMDR therapy between 14 and 28 days post-rape. In EMDR therapy,

the therapist aims to reduce the vividness and emotionality of trauma memories by asking the patient to recall the trauma memory while simultaneously making eye movements (F. Shapiro, 2017). The Early EMDR protocol slightly varies from the standard eight-phased EMDR protocol (De Jongh & Ten Broeke, 2013; F. Shapiro, 2017) in that it starts with asking subjects to tell the story of the rape until the start of the session (trauma episode narrative) instead of asking for the narrative of the rape itself. This part is adapted from the EMDR Recent Traumatic Episode Protocol (R-TEP; E. Shapiro & Laub, 2008, 2014; E. Shapiro, 2012). Next, the most disturbing mental representation of this trauma memory is identified and the negative cognition (e.g., 'I feel helpless/powerless'), emotions, subjective units of disturbance (SUD), and location of the disturbance related to this target image are assessed. The other adaptation from the standard EMDR protocol is that after the reprocessing of the trauma memory (i.e., when the disturbance related to all target images in this episode are processed to a SUD of zero) the installation of a positive cognition (e.g., 'I can handle it' or 'I am safe now'), and the 'body scan' are applied over the entire memory from the rape until the EMDR session (Shapiro & Laub, 2008), rather than on the memory of the event itself (F. Shapiro, 2017). After the memory has successfully been resolved, the patient's flashforward (i.e., his or her most horrible fantasy about the future, e.g., being raped again) - if present - will be desensitized to reduce anticipatory fear and avoidance behavior (De Jongh, 2015; Logie & De Jongh, 2014). This is followed by a Mental Video Check (De Jongh, 2015; F. Shapiro, 2017) to reduce tension or anxiety about future events. During the two sessions participants will receive a total of three and a half hours of early EMDR from a certified EMDR-therapist who has been trained in the Early EMDR protocol by an EMDR Europe approved trainer. The EMDR therapy will implemented with the use of rapid deployment of sets of eye movements offered by fingers or using a light bar because this type of tasks has been found the most effective in taxing individuals' working memory in EMDR therapy (De Jongh et al., 2013). No relaxation or emotion regulation skills training was applied prior to the processing of the memories (for the rationale see De Jongh et al., 2016). All EMDR sessions will be videotaped for treatment fidelity analysis by assessors who are blinded to outcome.

The control group will receive treatment as usual, which consists of the Watchful Waiting protocol (National Institute of Clinical Excellence [NICE], 2005). This protocol is used in all Dutch Sexual Assault Centres and consists of close monitoring of the patients stress reactions without active treatment. Patients are contacted at least twice between14 and 28 days post-rape by their case manager and are provided psychoeducation concerning posttraumatic stress symptoms and trauma recovery, as well as emotional support. Furthermore, the standard protocol for Watchful Waiting involves screening of posttraumatic stess symptoms and referral to psychological care if needed. In the

interest of the present study, case managers do not screen nor refer. Participants can be referred by the researcher after completing or ending participation, if needed.

Procedures

Victims of sexual assault can make a self-referral to their local sexual assault centre within seven days post-rape. They can also be referred by the police or other professionals involved (e.g., general practitioners, psychologists, social workers). At admission, victims receive a medical examination and treatment for injuries. They also receive medication to prevent pregnancy and the contraction of sexually transmitted diseases. Subjects who wish to make an official report to the police will do so before the start of the intervention. If so, potential evidence is collected by a forensic medical examination. Furthermore, a personal case manager is assigned to the victim. One day after admission, the case manager contacts the victims to provide them with psychoeducation on normal reactions after rape. During this contact, the case managers will check the inclusion/exclusion criteria for the Early EMDR study. If a victim meets the inclusion criteria, the case manager will provide the victim with information about the study and a researcher will contact him/her the following day.

One day after inclusion by the case manager, a researcher will contact the victims by telephone. He or she will answer any questions concerning the study and will ask the victim to participate in the study. After verbal consent, the victim will receive an email with an anonymized link to confirm their consent digitally. The subject and the researcher will also sign an informed consent form on paper at the pretreatment assessment. The study was granted approval by the Medical Ethical Committee of UMCU (NL60551.041.17).

Assessments

Subjects will be assessed at four time points: pretreatment at two weeks post-rape, posttreatment at one week posttreatment, and follow-ups at eight weeks and 12 weeks post-rape. Assessments consist of questionnaires and two interviews: one on posttraumatic stress symptoms and one on other psychopathology. All assessments will be conducted at the subject's home by a trained psychology student. The time of assessment for each questionnaire and interview can be found in Table 1.

Table 1. Assessment instruments

Instrument	Type	Construct	Time of assessment
Primary outcome			
Clinician Administered PTSD Scale (CAPS-5)	Interview	PTSD	Post, F1, F2
PTSD Checklist for the DSM 5 (PCL 5)	Questionnaire	PTSD	Pre, Post, F1, F2
Secondary outcomes			
The MINI International Neuropsychiatric Interview (MINI Plus 5.0.0)	Interview	Comorbid psychopathological diagnoses	Post, F1, F2
Hospital Anxiety and Depression Scale (HADS)	Questionnaire	Severity of general anxiety and depression symptoms	Pre, Post, F1, F2
Brief Symptom Inventory (BSI)	Questionnaire	Comorbid psychopathological symptoms	Pre, F1, F2
Dissociation Tension Scale (DSS)	Questionnaire	Dissociation pattern	Pre, Post, F1, F2
Amsterdam Hyperactive Pelvic Floor Scale for Women (AHPFS-W)	Questionnaire	Pelvic floor functioning	Pre, F2
Female Sexual Functioning Index (FSFI)	Questionnaire	Sexual functioning	Pre, F2
Additional questions on sexual functioning (based on Tarquinio et al, 2012)	Questionnaire	Sexual functioning in comparison to before the sexual assault	Pre, F2
Questions on guilt or shame (based on Foa et al., 1991)	Questionnaire	Guilt or shame about the sexual assault	Pre, F2
Visual Analogue Scale (VAS)	Questionnaire	Trauma image vividness and emotional intensity of the image	Pre, Post, F1, F2
Trauma Memory Questionnaire (TMQ)	Questionnaire	Trauma memory disorganization	Pre, Post, F1, F2
Tonic Immobility Scale (TIS)	Questionnaire	Tonic Immobility	Pre
Rape and Mental Health Care History	Questionnaire	Prior rape history and mental health care history	F2
Research participation			
Reactions to Research Participation Questionnaire Revised	Questionnaire	Research participation	F2

Note. Time of assessment is defined as pretreatment (Pre), posttreatment (Post), follow-up assessment at eight weeks post-assault (F1) and follow-up assessment at twelve weeks post-assault (F2).

Primary outcome variable

The main study outcome is posttraumatic stress symptom severity, which is assessed using two scales. The Clinician Administered PTSD Scale for DSM-5 (CAPS-5; Boeschoten et al., 2014) is a structured clinical interview that enables standardized DSM-5 PTSD diagnosis based on symptom severity scores. The standardized interview assesses 20 DSM-5 PTSD symptoms, the subjective distress and impact of the symptoms on social and occupational functioning on a scale from 0 (absent) through 4 (extreme/incapacitation). Because all subjects in the present study suffered rape, the interviewer does not assess Criterion A (identification of traumatic event). The CAPS-5 version for the past week is used at the posttreatment assessment. The version for the past month is used at both follow-ups. High validity and reliability of the CAPS-5 have been found in a sample of military veterans (Weathers et al., 2018).

Because the CAPS-5 cannot be used at pretreatment assessment of posttraumatic stress symptoms in the present study, severity of these symptoms is also indexed using the PTSD Checklist for the DSM-5 (PCL-5; Boeschoten, Bakker, Jongedijk, & Olff, 2014) at each assessment. This is a 20-item self-reported questionnaire on symptoms of PTSD that is scored on a five-point Likert scale from 0 through 4. Subjects answer the questions, such as 'repeated, disturbing dreams of the stressful experience', based on the past week at pretreatment and posttreatment and based on the past month at follow-ups. A previous study on trauma-exposed college students found strong internal consistency, test-retest reliability, convergent validity and discriminant validity of the PCL-5 (Blevins, Weathers, Davis, Witte, & Domino, 2015).

Secondary outcome variables

Psychological functioning

MINI International Neuropsychiatric interview Plus (MINI Plus; Van Vliet, Leroy, & Van Megen, 2000) is a structured clinical interview that enables standardized DSM diagnosis of depression, suicide ideation, (hypo) manic disorder, social anxiety, generalized anxiety disorder, obsessive-compulsive disorder, alcohol dependency, drug dependency, psychotic disorders, eating disorders, somatization disorders, and attention deficit and hyperactivity disorder. For each diagnosis, the interviewer asks questions about symptoms that are answered as 'yes' or 'no'. This interview is used at posttreatment and both follow-up assessments. The MINI Plus is the extended version of the MINI: A structured, well-validated diagnostic interview that assesses diagnostic criteria of the DSM-IV (Van Vliet & De Beurs, 2006).

For further assessment of psychological functioning, three questionnaires are used. First, the Brief Symptom Inventory (BSI; De Beurs, 2004) is a 53-item questionnaire on

psychological symptoms during the last week that is scored on a five-point Likert scale from 0 through 4. The scores generate nine subscales and a score for total symptoms. The BSI is used at pretreatment and both follow-ups. Previous research found good internal consistency and test-retest reliability (De Beurs & Zitman, 2006).

Second, the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) is used to provide additional information on depression and anxiety. The HADS is a 14-items questionnaire on symptoms of anxiety and depression during the last week and is scored on four-point Likert scale from 0 (never) to 4 (almost always). The HADS is used at every assessment. Internal consistency and test-retest reliability were estimated as good (Spinhoven et al., 1997).

Third, the Dissociation Tension Scale (DTS; Stiglmayr et al., 2010) scores the presence of dissociation during the last week at each assessment. Subjects answer 21 items on a scale of 0 to 100, with 0 meaning not present and 100 meaning constantly present. Previous research shows high internal consistency and good convergent, discriminant, and differential validity (Stiglmayr et al., 2010).

Sexual functioning

Three questionnaires are used to assess sexual function at pretreatment and last follow-up. First, the Amsterdam Hyperactive Pelvic Floor Scale (AHPFS; Van Lunsen & Van Laan, 2007) is 30-item questionnaire on pelvic floor problems, reported on a five-point Likert scale from 0 (never) to 4 (always). The psychometric qualities of this questionnaire have not yet been published.

Second, the Female Sexual Function Index (FSFI; Rosen et al., 2000) scores sexual desires, arousal, and penetration during the last month using 19 items on a five-point Likert scale. The internal consistency and discriminant validity of the FSFI are high (Wiegel, Meston, & Rosen, 2005).

Third, two items from the study of Tarquinio et al. (2012) are used to determine post-rape sexuality: 'Would you say that your level of desire or interest in your sex life is comparable to what it was before the sexual violence?' and 'Would you say that your level of sexual stimulation (or excitation) is comparable to what it was before the sexual violence?' Items are scored on a five-point Likert scale.

Guilt/shame

Two items from the study of Foa, Rothbaum, Riggs, and Murdock (1991) are used to determine guilt and shame about the rape at pretreatment and the last follow-up:

'During the last week, did you feel guilty about the traumatic event?' and 'During the last week, did you feel shame about the traumatic event?'. Both are scored on a five-point Likert scale from 0 (never) to 4 (always).

Image vividness and emotional intensity
Two VAS items were created to measure image vividness and emotional intensity after a 10 second recall of the most disturbing image of the rape. These items are used as process measures of the early EMDR intervention. The questions are 'How vivid was the image of the memory?' scored from not vivid through very vivid, and 'how unpleasant was the image of the memory?' scored from not unpleasant through very unpleasant (Van Veen et al., 2015). Subjects score image vividness and emotional intensity on the same image during every assessment.

Trauma memory disorganization
Trauma Memory Questionnaire (TMQ; Halligan et al., 2002) is a 9-item questionnaire that scores the ability to remember the recent trauma on a five-point Likert scale. This questionnaire is used at every assessment.

Tonic immobility
The Tonic Immobility Scale (TIS; Forsyth, Marx, Fusé, Heidt, & Gallup, 2000; De Kleine, Van Minnen & Hagenaars, 2009) is a questionnaire on the severity of peritraumatic tonic immobility. The first part consists of 12 items that are scored on a 7-point Likert scale. This part is measured at every assessment. The second part of the questionnaire indexes assault characteristics and is not used in the present study. Strong internal consistency of the TIS has been found in a sample of female sexual assault victims (Fusé et al., 2007).

Rape and mental health care history
A nine-item questionnaire was developed to determine the subjects' sexual assault history (e.g.. 'Have you ever experienced sexual assault, prior to the last assault"), mental health care history (e.g.. 'Have you even had trauma-focused therapy prior to your participation to this research'), and consciousness during the assault. All questions are dichotomous yes/no variables and are assessed at the last follow-up.

Research participation
To monitor the subjects' opinions and assumptions about research participation, the Reactions to Research Participation Questionnaire – Revised (RRPQ-R; Newman, Willard, Sinclair, & Kaloupek, 2001) is used at the end of the last follow-up. This questionnaire contains of 23 items on personal satisfaction, personal benefits, emotional reactions,

perceived drawbacks and global evaluation of participation to the research. The items are scored on a 5-point Likert scale. Although a validation study on the RRPQ-R has not been published, the versions for children and parents show adequate internal consistency (Kassam-Adams & Newman, 2002).

Power and sample size calculation

Power calculation methods are not available for mixed model procedures. We thus used a power calculation for repeated measures (within x between design) as a conservative approximation. For a 2 between (treatment conditions) x 2 within (pretreatment, posttreatment) repeated measures ANOVA (α = .05, power = .80, correlation between measures = .5, and medium effect-size f = .25), a total sample size of N = 34 will be required (G power; Faul, Erdfelder, Lang, & Buchner, 2007).

Data analysis

A linear mixed model analysis will determine the difference between the intervention group and control group in changes in posttraumatic stress symptom severity and other psychopathology over time. Intention-to-treat analyses will test the main effect of treatment condition, the main effect of time, and the interaction effect. Completers analysis will be used for comparison, but due to the expected high drop-out rates this analysis is possibly biased. The assumptions of normality, homogeneity of variances, and sphericity will be tested prior to interpreting the results.

DISCUSSION

The current study will be the first RCT that examines the effectiveness of early EMDR intervention compared to treatment as usual in reducing posttraumatic stress symptoms in rape victims. This is of importance given that sexual assault victims suffer from a broad spectrum of psychological and sexual dysfunctions (Galatzet-Levy, Nickerson, Litz, & Marmar, 2013). Furthermore, many victims of sexual assault develop posttraumatic stress symptoms (Elklit & Christiansen, 2010; Rothbaum et al, 1992) which has been found to increase the risk of revictimization (Messman-Moore, Ward, & Brown, 2009).

For the purpose of the present study an early EMDR treatment protocol was developed that not only closely resembles the Standard EMDR protocol (F. Shapiro, 2017) and the R-TEP protocol (E. Shapiro & Laub, 2008) but also entails the reprocessing of patients flashforwards when these are present (Logie & De Jongh, 2014), and the application of the Mental Video Check (De Jongh, 2015; F. Shapiro, 2017). Further strengths are that

the protocol can be completed in two treatment sessions, and that the study uses a broad variety of secondary outcome measures which includes psychological and sexual functioning, and guilt/shame. Another advantage is the use of a randomized pretest-posttest controlled design that will limit selection bias and detection bias by randomized sequence generation, allocation concealment and blinding of outcome assessment (Higgins & Green, 2011).

Some limitations of the present study design should also be noted. First, a waitlisted control group was not deemed ethical as almost all victims of sexual assault experience immediate posttraumatic stress (Elklit & Christiansen, 2010; Rothbaum et al., 1992). Therefore, the present study compares early EMDR intervention to treatment as usual (i.e. Watchful Waiting; NICE, 2005). This design precludes any statements of the added value of early EMDR intervention over no treatment. Second, an argument of natural recovery can be made: Although most victims experience posttraumatic stress immediately post-rape, more than half of them recover after three months (Elklit & Christiansen, 2010; Rothbaum et al., 1992). Unfortunately, predictors for natural recovery after rape have not yet been identified and could therefore not be measured at baseline. Therefore, the present study is likely to treat victims who would not have developed PTSD anyway. However, as victims are randomly allocated over the two interventions, natural regression is unlikely to affect study results. Moreover, the victims who recover from the posttraumatic stress after three months might still develop delayed-onset PTSD (Andrews, Brewin, Philpott, & Stewart, 2007). Thus, early intervention can still be clinically relevant for these victims.

In conclusion, the results of this RCT are a first step into developing evidence-based preventative treatment for PTSD after rape, which in turn might prevent the vicious cycle of rape, PTSD, and revictimization.

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CHAPTER 6

EARLY INTERVENTION WITH EYE MOVEMENT DESENSITIZATION AND REPROCESSING (EMDR) THERAPY TO REDUCE THE SEVERITY OF POST-TRAUMATIC STRESS SYMPTOMS IN RECENT RAPE VICTIMS: A RANDOMIZED CONTROLLED TRIAL

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European Journal of Psychotraumatology (2021); 12(1), 1943188

ABSTRACT

Background

About 40% of rape victims develop post-traumatic stress disorder (PTSD) within three months after the assault. Considering the high personal and societal impact of PTSD, there is an urgent need for early (i.e. within three months after the incident) interventions to reduce post-traumatic stress in victims of rape.

Objective

To assess the effectiveness of early intervention with eye movement desensitization and reprocessing (EMDR) therapy to reduce symptoms of post-traumatic stress, feelings of guilt and shame, sexual dysfunction, and other psychological dysfunction (i.e., general psychopathology, anxiety, depression, and dissociative symptoms) in victims of rape.

Method

This randomized controlled trial included 57 victims of rape, who were randomly allocated to either two sessions of EMDR therapy or treatment as usual ("watchful waiting") between 14 and 28 days post-rape. Psychological symptoms were assessed at pre-treatment, post-treatment, and 8 and 12 weeks post-rape. Linear mixed models and ANCOVAs were used to analyse differences between conditions over time.

Results

Within-group effect sizes of the EMDR condition (d = 0.89 to 1.57) and control condition (d = 0.79 to 1.54) were large, indicating that both conditions were effective. However, EMDR therapy was not found to be more effective than watchful waiting in reducing post-traumatic stress symptoms, general psychopathology, depression, sexual dysfunction, and feelings of guilt and shame. Although EMDR therapy was found to be more effective than watchful waiting in reducing anxiety and dissociative symptoms at the post-treatment assessment, this effect disappeared over time.

Conclusions

The findings do not support the notion that early intervention with EMDR therapy in victims of rape is more effective than watchful waiting for the reduction of psychological symptoms, including symptoms of post-traumatic stress. Further research on the effectiveness of early interventions, including watchful waiting, for this specific target group is needed.

A recent population study among Dutch citizens found that 15% of women and 3% of men had experienced rape, that is, vaginal, oral, or anal sex without consent (De Graaf & Wijssen, 2017). Another study estimated the lifetime prevalence, averaged over genders, at 5.8% worldwide (Kessler et al., 2017). Exposure to rape has been found to contribute to the development of psychological problems, such as depression, dissociation, substance abuse, feelings of guilt and shame, and suicidal ideation (Aakvaag et al., 2016; Faravelli et al., 2004; Galatzer-Levy et al., 2013; Tiihonen Möller et al., 2014; Weaver et al., 2007). Victims of rape can also develop post-traumatic stress disorder (PTSD), a mental health condition characterized by symptoms of intrusions, avoidance, negative cognitions and mood, and hyperarousal related to exposure to the traumatic event (American Psychiatric Association [APA], 2013; Rothbaum et al., 1992).

Studies have found that almost all rape victims experience symptoms of post-traumatic stress in the days following the event (Rothbaum et al., 1992) and about 40% will develop PTSD within three months (Elklit & Christiansen, 2010; Tiihonen Möller et al., 2014). The development of PTSD after rape is thus highly prevalent. PTSD has a substantial personal and societal impact, not only through the impairment caused by its symptoms but also because it is known to predict the development of mood disorders, anxiety disorders, and substance abuse disorders (Kessler, 2000). Collectively, these mental health problems cost nearly two trillion dollars per year in the US, which is two thirds of the total economic burden caused by rape (Peterson et al., 2017). PTSD is also related to physical problems, including cardiovascular and gastrointestinal symptoms, chronic pain (Gupta, 2013), and pelvic floor problems (Karsten et al., 2020). Furthermore, rape victims who develop PTSD have an increased risk of revictimization, that is, experiencing new sexual assaults (Messman-Moore et al., 2009). Thus, PTSD can catalyse a cycle of physical and mental health problems that each increases the societal impact and decrease victims' quality of life.

Preventing the personal and public health burden of mental illnesses is complex, because the cause and onset of disorders are difficult to determine. PTSD is an exception, as the disorder is initiated by a traumatic event, and the time of onset of its symptoms is often known (Magruder et al., 2017). To this end, PTSD provides a unique possibility for early intervention to prevent the development and consequences of the disorder. A meta-analysis of early intervention after sexual assault, including RCTs on prolonged exposure, video intervention, and cognitive processing therapy, found a significantly greater reduction of post-traumatic stress symptoms after early intervention than standard care (Oosterbaan et al., 2019). Despite this encouraging outcome, the authors emphasized that the evidence was based on only four studies and that the risk of bias in these early intervention studies was high, especially selection bias.

Eye movement desensitization and reprocessing (EMDR) therapy is one of the recommended treatments for PTSD once the diagnosis is established (ISTSS, 2018; NICE, 2018). In recent years, several RCTs showed that, in non-sexual trauma victims and relative to no treatment, early intervention with EMDR therapy within six weeks post-trauma is efficacious in reducing post-traumatic stress (Jarero et al., 2011; Shapiro & Laub, 2015; Tarquinio et al., 2016). Yet, the effectiveness of EMDR therapy as an early intervention after rape still has to be established. Therefore, we conducted an RCT aimed to determine the effectiveness of EMDR therapy on psychological symptoms after rape. Our primary hypothesis was that individuals, who had very recently been raped and who received EMDR therapy between two and four weeks following this event, would demonstrate significantly lower levels of self-reported and clinician-reported post-traumatic stress symptoms at post-treatment and eight and 12-weeks post-rape follow-ups, relative to individuals who received treatment as usual (i.e., "watchful waiting"). Secondly, it was hypothesized that victims of recent rape who received EMDR therapy would demonstrate a significantly lower level of sexual and psychological dysfunction (i.e., general psychopathology, anxiety, depression and dissociative symptoms), and feelings of guilt and shame at post-treatment, and both follow-ups, than victims who received treatment as usual.

METHOD

Study design

Four sexual assault centres in the Netherlands collaborated in this RCT. Per centre, a randomization sequence was computer-generated. Subjects were randomly assigned to one of the two study conditions on a 1:1 ratio: EMDR therapy or treatment as usual (TAU). Participation included assessments at four time points. For a detailed description of the study protocol, see Covers et al. (2019). Neither trial design nor eligibility criteria changed during the trial. The only adjustment to the study protocol was the decision to report PTSD diagnosis without further analysis[1].

Participants

Victims of rape who contacted one of the participating sexual assault centres within one week after they experienced rape were screened for research participation. In this study, rape was defined as vaginal, oral, or anal penetration without consent, as reported by the victim. Victims younger than 16, victims with cognitive disabilities, and victims who did not speak Dutch were excluded from study participation. Also, victims who required immediate psychological care for psychoses, suicidal ideation, or addiction were excluded from the study. Additionally, in order to exclude those

with pre-existing PTSD, victims who received concurrent trauma-focused treatment for prior experiences were excluded from the study. Exclusion was not based on symptom levels as most victims were expected to exhibit relatively high levels of post-traumatic stress symptoms immediately post-rape (Rothbaum et al., 1992; Steenkamp et al., 2012; Tiihonen Moller 2014). Fifty-seven victims, including one male, agreed to participate in this study.

Procedures

The study was approved by the Medical Ethical Committee of the University Medical Centre Utrecht and registered in the Dutch Trial Register (NTR6760). Upon admission to the sexual assault centres, victims received medical care and could be put in contact with the police. Victims also received psychoeducation about common reactions after rape by a case manager via telephone one day after admission to the centre. Between March 2018 and January 2020, victims of rape who contacted one of the participating sexual assault centres within one week after they experienced rape were screened for research participation during this call. The case manager screened for the exclusion criteria of the study using the information from the conversation with the victim. No instruments were used to assess the exclusion criteria. Victims who did not meet the exclusion criteria received a study information letter. The following day, the researcher contacted these victims for further information. After informed consent, subjects were randomly allocated to EMDR therapy or TAU. Both groups received their intervention between two and four weeks post-rape and were assessed at the following time points: pre-treatment at two weeks post-rape, post-treatment at one week after the treatment (4 to 5 weeks post-rape), and two follow-up assessments at eight and 12 weeks post-rape. The assessors were blinded to the intervention allocation. Subjects received a 20 euro incentive after concluding their participation, regardless of whether they completed all assessments. The CONSORT 2010 guideline (Schulz et al., 2010) was followed for the reporting of this RCT.

Interventions

Subjects in the intervention arm of this study received 3.5 hours of EMDR therapy across two sessions. In EMDR therapy eye movements are used to reduce the vividness and emotionality of trauma memory (F. Shapiro, 2018). In the present study, the Dutch version of the standard eight-phased EMDR protocol (De Jongh & Ten Broeke, 2019; F. Shapiro, 2018) was used. The trauma memory was conceptualized as a memory lasting from the period of time from the rape until the day of treatment. This adaptation, derived from the EMDR Recent Traumatic Episode Protocol (R-TEP; E. Shapiro & Laub, 2008, 2014; E. Shapiro, 2012) pertains to minor changes to the wording of sentences in some phases of the EMDR standard protocol, including the memory of the trauma

episode (i.e., the period of time of the rape until the day of treatment) and installation of the positive cognition and body scan related to the trauma episode rather than linked to the specific rape memory per se. Therapists were eight licensed psychologists who completed an accredited course of EMDR therapy and were trained in the application of the study protocol. Video recordings of the sessions were made for bimonthly supervision by two EMDR Europe accredited trainers in EMDR therapy ([author initials redacted for peer review]) and in order to determine treatment adherence. This treatment adherence was measured using an EMDR-specific treatment integrity checklist used in previous EMDR studies (e.g. Van den Berg et al., 2015). Twenty-five percent of the 48 video recordings were assessed by two independent psychology graduates. There were no inconsistencies in these two assessments and treatment fidelity proved high (97%).

The control condition of the study entailed the sexual assault centres' treatment as usual. This consisted of two telephone contacts of approximately 30 minutes with a case manager, who provided psychoeducation and emotional support in accordance with a watchful waiting protocol (NICE, 2018). This protocol is currently standard in all (16) sexual assault centres in the Netherlands and stipulates screening for post-traumatic stress symptoms at least two times during the first month post-rape and, if indicated, subsequent referral for evidence-based treatment. For the purpose of the present study, subjects in the control condition were not referred after watchful waiting by the case manager. Instead, watchful waiting ended at one-month post-rape. If needed, subjects from both study conditions with a high need for psychological treatment could be referred for therapy after the study by the researchers. If there was an urgent need for treatment during the study participation, subjects were referred immediately but excluded from further participation in the study.

Measures

For an overview of all outcome measures, the total score range and the internal consistency in the current study, see Table 1. For a complete description of the measures, we refer the reader to the study protocol (Covers et al., 2019). The use of the Female Sexual Function Index (FSFI; Rosen et al., 2000) was altered after data collection. The FSFI measured the presence and quality of sexual desires, arousal, and penetration. The total score of the FSFI can only be used for participants who have been sexually active during the study. Therefore, we used a combined score based on two domains (desire and satisfaction) of the FSFI that did not rely on sexual activity during the study.

Table 1. Time of assessment and internal consistency per outcome measure

Instrument	Total score range	Time of assessment	Internal consistency
Post-traumatic stress symptoms			
Clinician Administered PTSD Scale (CAPS-5; Boeschoten et al., 2014)	0 - 80	Post, 8, 12	.889
PTSD Checklist for the DSM 5 (PCL-5; Weathers et al., 2013)	0 – 80	Pre, Post, 8, 12	.940
Psychological functioning			
Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) Depression scale	0 – 21	Pre, Post, 8, 12	.859
Hospital Anxiety and Depression Scale (HADS) Anxiety scale	0 – 21	Pre, Post, 8, 12	.893
Brief Symptom Inventory (BSI; De Beurs, 2004)	0 – 212	Pre, 8, 12	.972
Dissociation Tension Scale (DTS; Stiglmayr et al., 2010)	0 – 100	Pre, Post, 8, 12	.941
Sexual functioning			
Amsterdam Overactive Pelvic Floor Scale for Women (AOPFS; Van Lunsen & Van Laan, 2007)	6 – 30	Pre, 12	.893
Female Sexual Functioning Index (FSFI; Rosen et al., 2000) Total score	1.6 – 36	Pre, 12	.972
Female Sexual Functioning Index (FSFI) Desire and Satisfaction	1.6 – 12	Pre, 12	.797
Item on sexual desire (based on Tarquinio et al., 2012)	1 - 5	Pre, 12	NA
Guilt/shame			
Items on feelings of guilt and shame (based on Foa et al., 1991)	1 - 5	Pre, 12	NA

Note. Time of assessment is defined as pre-treatment (Pre), post-treatment (Post), follow-up at eight weeks post-rape and follow-up at 12 weeks post-assault. Internal consistency is calculated with Cronbach's alpha. For all measures higher scores indicate more psychopathology, with the exception of the FSFI, where higher scores indicate less psychopathology. The CAPS-5 was not administered at the pre-treatment assessment in order to facilitate study participation.

Statistical analysis

Independent-samples t-tests and chi-square tests were executed to test for any differences in pre-treatment measures between non-completers (dropout at any point during the study including dropout before pre-treatment assessment) and completers (participation up to the last follow-up). To determine the effectiveness of EMDR therapy in reducing post-traumatic stress symptoms and other psychological dysfunction, a covariance pattern linear mixed model analysis (Liu, Rovine, & Molenaar, 2012) was conducted on the intention-to-treat sample while adjusting for pre-treatment assessment scores. Analyses including only assessment completers were not possible, since the small

completers sample caused a lack of statistical power (Figure 1). Fixed effects were time, condition, and the interaction between time and condition. When significant condition effects were found, group differences over time were further analysed by pairwise comparisons with a Bonferroni adjustment for multiple comparisons. The effect of EMDR therapy on sexual dysfunction (FSFI, AOPFS, and sexual desire) and guilt/shame was analysed with ANCOVAs with pre-treatment assessment of the respective measures as covariates. For the analyses, BSI, DTS, and AOPFS scores were transformed using square root to adjust for non-normality. Any missing item scores were imputed using a two-way multiple imputation (Van Ginkel et al., 2007). Effect sizes were calculated using Cohen's *d* (Cohen, 1988). SPSS version 25 was used for all analyses.

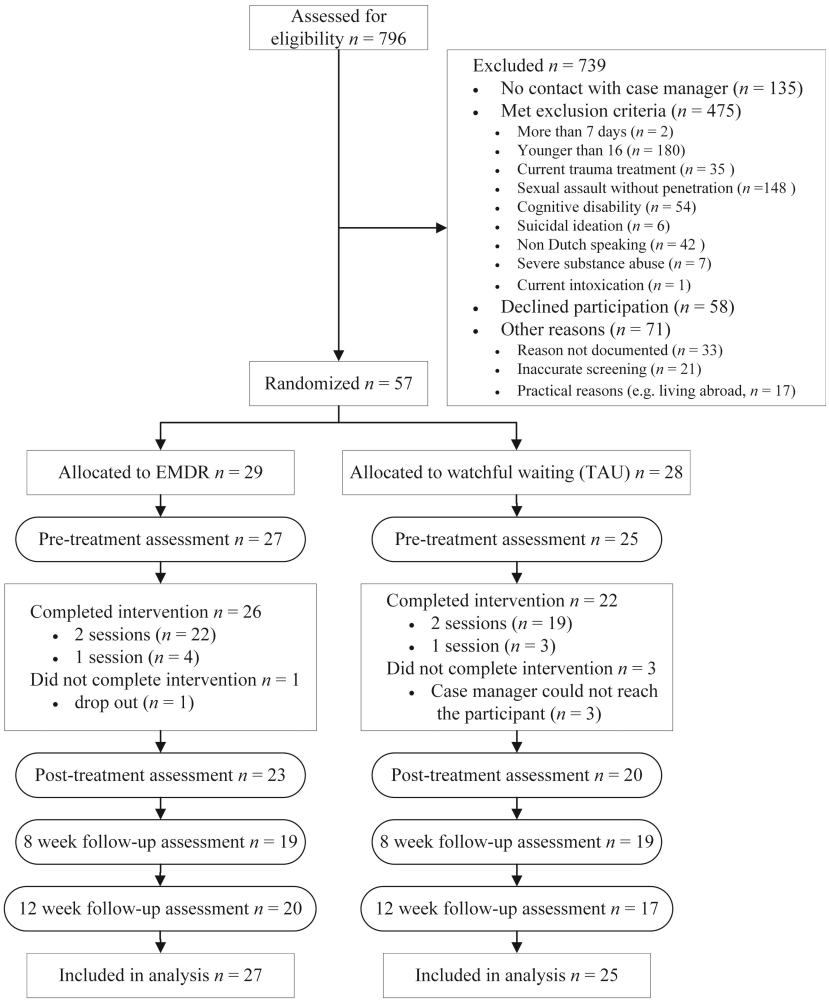

Figure 1. Attrition flow chart

RESULTS

Attrition and baseline

Figure 1 shows the attrition of participants from enrolment to analysis. In the present study, one participant in the EMDR condition experienced an increase in suicidal ideation between pre-treatment and post-treatment assessments after which participation in the study was discontinued and psychological care was initiated. As the analyses of the present study are on an intention-to-treat basis, this participant was not excluded from the analyses.

A total of 37 participants completed the 12-week follow-up assessment. However, one of these participants was not available for the post-treatment assessment and 8-week follow-up assessment, and is therefore considered a non-completer in the dropout analysis. Assessment non-completers (n = 21) did not differ from participants who completed all assessments (n = 36) with respect to age (t = -1.18, df = 55, p = .243), treatment allocation (χ^2 = 0.14, p = .707), and relationship to the perpetrator (known vs unknown, χ^2 = 0.24, p = .622). Participants who dropped out after completion of the pre-treatment assessment (i.e. missed any of the three post-treatment assessments but completed the pre-treatment assessment, n = 16) did not differ from those who completed all assessments (n = 36) in pre-treatment post-traumatic stress symptoms (PCL-5; t = .323, df = 50, p = .748) or general psychopathology symptoms (BSI; t = -0.55, df = 50, p = .584).

Demographic and Clinical Characteristics

The mean age of the 57 participants was 25.81 years (SD = 8.18) with no difference between the EMDR therapy condition (M = 25.52, SD = 7.93) and the TAU condition (M = 25.88, SD = 8.23; t = 0.161, df = 50, p = .872). Further participant characteristics are found in Table 2. The mean scores of all measures per assessment are presented in Table 3.

Table 2. Participant characteristics

	EMDR		TAU	
	n	**%**	***n***	**%**
Relationship to perpetrator (known)	20/27	74%	20/25	80%
Prior sexual assault experience	5/18	28%	6/14	43%
Prior trauma-based treatment	6/19	32%	2/14	14%
Conscious during recent rape	14/17	82%	9/13	69%

Note. Variables were missing for some participants. *n* refers to the ratio of observed to measured.

Table 3. Mean and standard deviations of each outcome variable per assessment

		EMDR			TAU		
Measure	**Assessment**	***n***	***M***	***SD***	***n***	***M***	***SD***
PCL-5	Pre	27	45.69	13.45	25	47.84	13.65
	Post	22	32.10	16.89	20	37.95	11.26
	8 weeks	19	24.49	18.53	19	32.57	18.31
	12 weeks	20	22.09	16.41	17	23.29	17.94
CAPS-5	Post	22	28.95	14.60	19	33.05	10.63
	8 weeks	19	22.79	14.95	19	27.05	16.25
	12 weeks	19	17.74	13.81	17	21.00	14.67
HADS Depression	Pre	27	10.70	4.74	25	8.80	4.01
	Post	21	8.48	4.06	20	8.95	3.76
	8 weeks	19	7.63	4.70	19	7.00	4.43
	12 weeks	19	6.68	4.83	17	6.06	4.87
HADS Anxiety	Pre	27	13.00	4.71	25	11.92	4.34
	Post	21	8.81	3.98	20	10.75	3.45
	8 weeks	19	7.98	4.28	19	9.47	4.02
	12 weeks	19	7.00	4.59	17	7.41	4.90
DTS	Pre	27	30.03	23.26	25	25.53	19.39
	Post	21	9.68	11.45	20	16.02	13.43
	8 weeks	19	6.95	7.79	18	13.02	13.08
	12 weeks	19	4.62	3.96	17	8.15	10.23
BSI	Pre	27	88.26	44.35	25	89.06	39.08
	8 weeks	19	49.16	33.24	18	54.51	36.43
	12 weeks	19	42.07	29.66	17	43.17	36.23
AOPFS	Pre	27	11.35	4.61	24	11.61	3.21
	12 weeks	19	9.25	2.08	16	11.07	2.83
FSFI desire and satisfaction	Pre	27	4.04	2.61	24	4.46	2.22
	12 weeks	19	5.46	3.05	16	5.91	2.55
Change in sexual desire	Pre	27	2.00	1.49	25	2.32	1.49
	12 weeks	19	2.68	1.80	17	3.00	1.54
Guilt	Pre	27	3.00	1.47	25	3.24	1.45
	12 weeks	19	1.42	0.84	17	1.94	0.97
Shame	Pre	27	3.22	1.45	25	3.68	1.35
	12 weeks	19	1.74	0.81	17	2.59	1.28

Note. PCL-5 = PTSD Checklist for DSM-5; CAPS = Clinician Administered PTSD Scale for DSM-5; HADS = Hospital Anxiety and Depression Scale; DTS = Dissociation Tension Scale; BSI = Brief Symptom Inventory; AOPFS = Amsterdam Overactive Pelvic Floor Scale for Women; FSFI = Female Sexual Functioning Index.

Early EMDR Process

Among those who received EMDR therapy (*n* = 26), on average 5.92 target images (*SD* = 3.45, range 0 - 13) were treated to a SUD (subjective unit of disturbance) of zero. These targets include images of the assault and the aftermath, as well as images of future fears ("Flashforward procedure"; De Jongh, 2015; Logie & De Jongh, 2014) and present triggers ("Mental video check"; De Jongh, 2015; F. Shapiro, 2018). At eight-weeks post-rape, 47% (*n* = 9) of the participants in the EMDR condition and 58% (*n* = 11) of the participants in the TAU condition met the diagnostic criteria for PTSD[1] according to the CAPS-5. At 12 weeks, PTSD could be diagnosed in 16% (*n* = 3) of the participants in the EMDR condition and 35% (*n* = 6) of the participants in the TAU condition.

Effectiveness of EMDR therapy

Across all outcome measures, the between-group effect sizes were small to medium (Table 4; Cohen, 1988). All between-group effect sizes indicate fewer symptoms for the EMDR condition than the TAU condition. Medium to large within-group effect sizes were found for the EMDR condition, and small to large for the TAU condition.

Post-traumatic stress symptoms

Figure 2 visualizes the changes in self-reported and clinician reported post-traumatic stress symptom scores per condition over time, reflecting a decrease in symptoms in both conditions. Table 5 shows the estimates of the effects of condition and time and the condition-time interaction effect from the analyses. For post-traumatic stress symptoms, the PCL-5 and the CAPS-5, the results showed no significant effect of the condition and no significant interaction effect of the condition and time from post-treatment to 12 weeks, meaning that there was no significant difference between the conditions in total post-traumatic symptom scores at any of these assessments. The effect of time was significant at eight and 12 weeks compared to post-treatment for both outcomes with a decrease in total score over time.

1 PTSD diagnosis was assessed using the CAPS-5. Group-differences in PTSD diagnoses could not be analysed due to a lack of statistical power. We therefore refrained from all inference based on the proportion of PTSD diagnoses.

Table 4. Between-group effect sizes at posttreatment and follow-up assessments and within-group effect sizes in Cohen's d.

	Between-group effect size			Within-group effect size					
	Post-treatment	8 weeks	12 weeks	Pre-treatment to post-treatment		Pre-treatment to 8 weeks		Pre-treatment to 12 weeks	
				EMDR	TAU	EMDR	TAU	EMDR	TAU
PCL-5	0.41	0.44	0.07	0.89	0.79	1.31	0.95	1.57	1.54
CAPS-5	0.32	0.27	0.23	-	-	-	-	-	-
HADS Depression	0.12	0.14	0.13	0.50	0.04	0.65	0.42	0.84	0.61
HADS Anxiety	0.52	0.36	0.09	0.96	0.30	1.12	0.59	1.29	0.97
DTS	0.51	0.56	0.46	1.24	0.59	1.33	0.76	1.52	1.12
BSI	-	0.15	0.03	-	-	1.00	0.96	1.22	1.22
AOPFS	-	-	0.73	-	-	-	-	0.59	0.18
FSFI desire and satisfaction	-	-	-0.16	-	-	-	-	0.50	0.61
Sexual desire	-	-	-0.19	-	-	-	-	0.41	0.45
Guilt	-	-	0.57	-	-	-	-	1.32	1.05
Shame	-	-	0.79	-	-	-	-	1.26	0.83

Note. Positive between-group effect sizes indicate that the EMDR condition scored lower than the control condition. PCL-5 = PTSD Checklist for DSM-5; CAPS = Clinician Administered PTSD Scale for DSM-5; HADS = Hospital Anxiety and Depression Scale; DTS = Dissociation Tension Scale; BSI = Brief Symptom Inventory; AOPFS = Amsterdam Overactive Pelvic Floor Scale for Women; FSFI = Female Sexual Functioning Index.

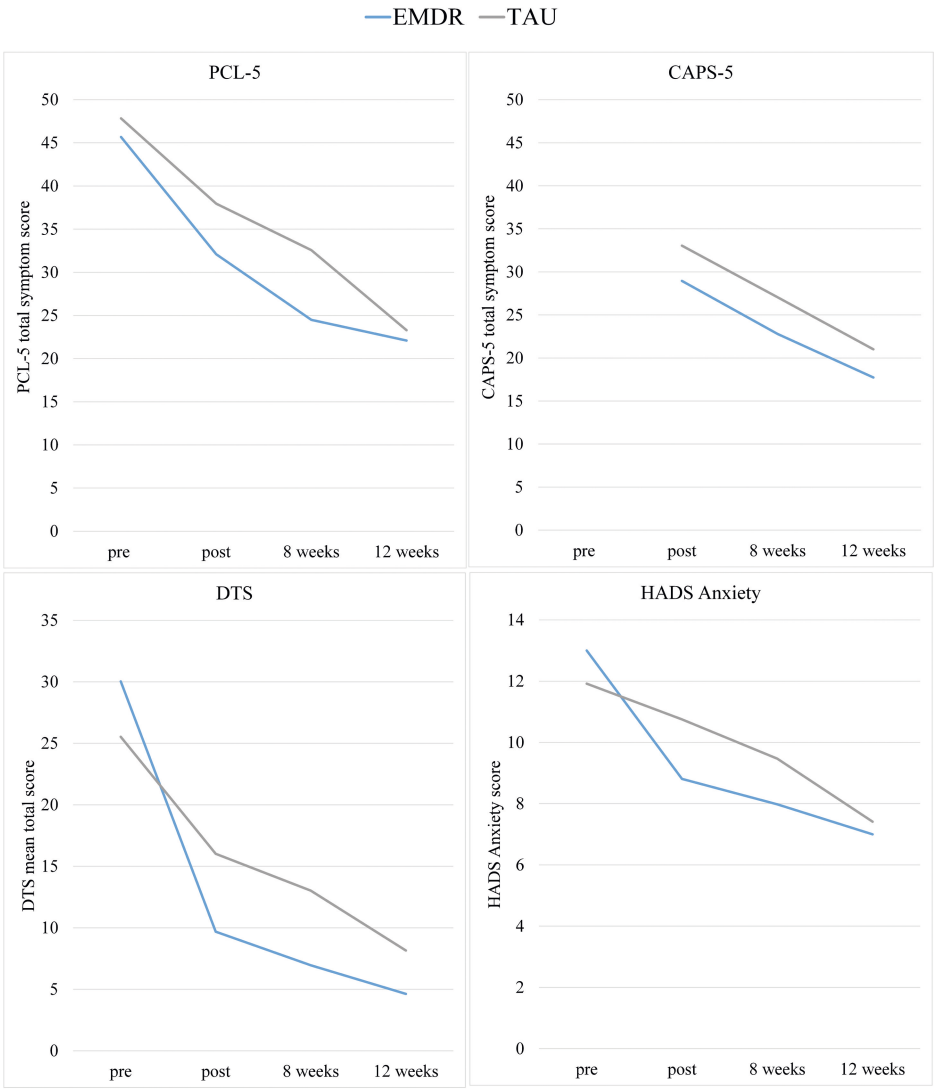

Figure 2. Mean scores of the EMDR and control conditions on self-reported (PCL-5) and clinician reported post-traumatic stress symptoms (CAPS-5), dissociative symptoms (DTS) and anxiety symptoms (HADS anxiety) at pre-treatment, post-treatment, and eight and 12 week follow-ups.

Table 5. Estimate outcomes of mixed model analyses

	Intercept			Pre-treatment			Condition			Time						Condition-time interaction					
										8 weeks			12 weeks			8 weeks			12 weeks		
	Est	SE	95% CI	Est	SE	95% CI	Est	SE	95% CI	Est	SE	95% CI	Est	SE	95% CI	Est	SE	95% CI	Est	SE	95% CI
PCL-5	8.40	7.17	-6.08, 22.88	0.60**	0.14	0.33, 0.88	-4.92	3.63	-12.27, 2.43	-5.86*	2.71	-11.36, -0.37	-14.57**	3.22	-21.10, -8.04	0.43	3.82	-7.31, 8.17	6.66	4.48	-2.41, 15.74
CAPS-5	33.05**	2.96	27.06, 39.05	-	-	-	-4.10	4.05	-12.28, 4.09	-6.00*	2.20	-10.45, -1.55	-11.80**	2.83	-17.54, -6.05	1.65	3.11	-4.65, 7.95	1.84	3.94	-6.14, 9.82
HADS Depression	2.72	1.48	-0.27, 5.71	0.66**	0.14	0.39, 0.94	-1.63	1.07	-3.80, 0.54	-2.07**	0.72	-3.53, -0.60	-2.33*	0.97	-4.29, -0.38	1.23	1.02	-0.84, 3.29	0.54	1.35	-2.19, 3.27
HADS Anxiety	4.39**	1.48	1.39, 7.39	0.51**	0.11	0.30, 0.73	-2.25*	0.95	-4.17, -0.32	-1.39*	0.62	-2.65, -0.13	-2.97**	0.91	-4.82, -1.12	0.58	0.88	-1.20, 2.37	1.19	1.27	-1.39, 3.77
BSI	-1.06	1.46	-4.02, 1.91	0.85**	0.15	0.55, 1.15	-0.04	0.64	-1.34, 1.26	-	-	-	-0.93*	0.38	-1.69, -0.16	-	-	-	0.39	0.51	-0.65, 1.44
DTS	1.41*	0.52	0.36, 2.46	0.46**	0.09	0.28, 0.63	-1.14*	0.44	-2.02, -0.26	-0.58*	0.26	-1.12, -0.05	-1.17**	0.32	-1.80, -0.53	0.13	0.37	-0.62, 0.88	0.39	0.44	-0.50, 1.28

Note. The pre-treatment assessment of the measure was the covariate in the respective analyses. Reference categories are TAU condition and post-treatment assessment. Effects of BSI, and DTS are based on transformed data. BSI was not assessed at post-treatment, so the reference category is the 8 week follow-up. PCL-5 = PTSD Checklist for DSM-5; CAPS = Clinician Administered PTSD Scale for DSM-5; HADS = Hospital Anxiety and Depression Scale; DTS = Dissociation Tension Scale; BSI = Brief Symptom Inventory. * $p < .05$ ** $p < .01$

Psychological functioning

For HADS Anxiety (Figure 2 and Table 5), the results showed a significant effect of time at 8 and 12 weeks with decreasing HADS Anxiety scores over time compared to post-treatment. There was a significant effect of condition where the EMDR condition scored lower than the TAU condition at post-treatment. There was no significant condition-time interaction at 8 and 12 weeks. Pairwise comparisons showed a significant difference between conditions at post-treatment (M_{diff} = 2.25, *SE* = 0.95, *p* = .023, 95% CI = [0.32, 4.17]) but not at eight weeks (M_{diff} = 1.67, *SE* = 1.16, *p* = .158, 95% CI = [-0.68, 4.01]) or 12 weeks (M_{diff} = 1.05, *SE* = 1.35, *p* = .440, 95% CI = [-1.68, 3.79]). Also, the DTS (Figure 2 and Table 5) showed a significant effect of time at eight and 12 weeks with decreasing scores over time compared to post-treatment. There was a significant effect of condition with lower scores for EMDR than TAU at post-treatment and no significant condition-time interaction. However, pairwise comparisons showed a significant difference between conditions at post-treatment (M_{diff} = 1.14, *SE* = 0.44, *p* = .013, 95% CI = [1.18, 9.25]) and eight weeks M_{diff} = 1.01, *SE* = 0.44, *p* = .029, 95% CI = [0.50, 8.73]), but the difference at 12 weeks was not significant (M_{diff} = 0.75, *SE* = 0.37, *p* = .051, 95% CI = -0.10, 6.89]). Furthermore, both the BSI and HADS Depression scores showed no significant effect of condition and no significant condition-time interaction (Table 5). The effect of time was significant at 8 and 12 weeks with decreasing scores over time compared to post-treatment.

Sexual functioning, guilt and shame

Table 6 displays the results of the ANCOVA analyses. The results showed no significant effect for condition on the AOPFS scores (*F*(1, 35) = 1.71, *p* = .200) and the FSFI scores (*F*(1, 35) = 0.13, *p* = .719). No condition effect was found for change in sexual desire (*F*(1, 36) = 0.25, *p* = .618), guilt (*F* (1,36) = 0.71, *p* = .405), and shame (*F*(1, 36) = 1.45, *p* = .236) either.

Table 6. Estimate outcome of ANCOVA analyses

	Intercept			Pre-treatment			Condition		
	b	**SE**	**95% CI**	***b***	**SE**	**95% CI**	***b***	**SE**	**95% CI**
AOPFS	2.48**	0.66	1.14, 3.81	0.58**	0.10	0.38, 0.77	-0.19	0.20	-0.59, 0.22
FSFI desire and satisfaction	2.99**	0.91	1.13, 4.85	0.59**	0.17	0.24, 0.93	-0.30	0.84	-2.01, 1.40
Change in sexual desire	1.86**	0.56	0.73, 2.99	0.45	0.23	-0.01, 0.91	-0.27	0.54	-1.37, 0.83
Guilt	0.65	0.33	0.00, 1.33	0.29**	0.10	0.08, 0.50	-0.25	0.29	-0.84, 0.35
Shame	0.69	0.44	-0.20, 1.57	0.36**	0.13	0.10, 0.63	-0.43	0.36	-1.15, 0.29

Note. The pre-treatment assessment of the measure was the covariate in the respective analyses. Reference category is TAU condition. Effects of AOPFS are based on transformed data. AOPFS = Amsterdam Overactive Pelvic Floor Scale for Women; FSFI = Female Sexual Functioning Index. * p < .05 ** p < .01

DISCUSSION

This randomized controlled trial aimed to investigate the effectiveness of early intervention with EMDR therapy in reducing post-traumatic stress symptoms, as well as symptoms of other psychological and sexual dysfunction, and feelings of guilt and shame in victims of rape. The results do not support the primary study hypothesis in that victims of rape who received EMDR therapy between two and four weeks post-rape did not demonstrate less post-traumatic stress symptoms at post-treatment and 8 and 12 weeks follow-ups than victims who received watchful waiting (TAU). The study found large reductions in post-traumatic stress symptoms between two and 12 weeks post-rape in both study conditions as evident in effect sizes.

These results contrast with a systematic review and meta-analysis of early intervention after sexual assault (Oosterbaan et al., 2019), where interventions prior to three months post-rape were found to be more effective than the control conditions in reducing post-traumatic stress symptoms. Notably, the studies in this meta-analysis differed from the present study in methodology. Indeed, an RCT on early intervention with prolonged exposure for victims of rape did find a significant difference in post-traumatic stress symptoms at 12 weeks post-rape between the intervention and control condition (Rothbaum et al., 2012). However, the control condition in that study was a no treatment control condition. In contrast, the present study used a TAU control condition (watchful waiting) consisting of psycho-education, active listening, and well-informed advise. An RCT on early intervention using cognitive processing therapy after rape by Nixon et al. (2016), which was also carried out at a sexual assault centre and used a similar TAU control condition as in the present study, found similar between-group effect sizes as the present study (Cohen's *d* PCL-5 at post-treatment = 0.30 and at 12 weeks post-rape = 0.16, indicating fewer symptoms for the intervention condition than the control condition). Moreover, the within-group effect size between 2 and 12 weeks post-rape associated with the application of EMDR therapy in the present study was very large (Cohen's *d* PCL-5 = 1.57; Cohen, 1988). This effect size is larger than the one found by Nixon et al. (2016; Cohen's *d* PCL-5 = 0.95), even though their intervention consisted of six sessions compared to our two sessions. Noteworthy, however, the participants in the watchful waiting (TAU) condition also decreased in post-traumatic stress symptoms over time (Cohen's *d* PCL-5 = 1.57). Although some natural regression of acute stress symptoms during the first months post-rape was expected (Steenkamp et al., 2012), the results might suggest that natural regression is a particularly powerful factor in this target group (i.e., in both conditions). It is of note that the findings of the present study support a recent meta-analysis of early intervention after any type of trauma (Roberts et al., 2019), which found early interventions to be no more effective as treatment-as-

usual on post-traumatic stress symptoms at post-treatment and longer follow-ups, when intervention was offered to all individuals exposed, regardless of symptomatology.

The results of the present study were also not supportive of the secondary hypothesis in that victims of rape who received EMDR therapy did not report significantly less sexual dysfunction, psychological dysfunction (which included symptoms of general psychopathology, anxiety, depression, and dissociation), and feelings of guilt and shame than victims who received watchful waiting (TAU). These symptoms reduced strongly over time in both study conditions. Although EMDR therapy was found to be more effective than watchful waiting (TAU) in reducing symptoms of anxiety and dissociation at post-treatment, we were unable to find sufficient evidence to determine a lasting surplus effect of EMDR therapy across 12 weeks post-rape on these symptom clusters. This initial effect of EMDR therapy on anxiety and dissociation may be caused by the treatment's focus on traumatic memories. Specifically, EMDR aimed at individuals' flashforwards (i.e., images of future fears) and the implementation of a mental video check (i.e., anxiety and tensions about present events) were used as additional interventions meant to treat present and anticipatory fears, such as the fear of being assaulted again by the same or other perpetrator. This focus may have resulted in a stronger reduction in anxiety and dissociative symptoms. Still, victims in the watchful waiting (TAU) condition also showed reduced symptoms of anxiety and dissociation across time, and at 12 weeks post-rape these symptoms were equal across study conditions. Finally, whereas no prior research has studied the effect of early intervention after rape on symptoms of anxiety or dissociation, nor sexual dysfunction and feelings of guilt and shame, two RCTs have studied the effect of early intervention on symptoms of depression (Resnick et al., 2007; Rothbaum et al., 2012). Our findings on symptoms of depression are in contrast to those studies in which early interventions were found to be more effective in reducing symptoms of depression in victims of sexual assault than no treatment (Resnick et al., 2007; Rothbaum et al., 2012). The lack of between-group effect in the present study may be explained by the focus in watchful waiting on normalizing stress responses experienced during and after rape, such as the genital response and tonic immobility. Also, the encouragement of social sharing, as well as the involvement of important others and educating these persons to give the victim social support and acknowledgement, is known to have a positive effect on symptoms of depression.

Lastly, an important outcome of the present study is that EMDR therapy is a safe option for early intervention after rape, even for victims who had prior experience with sexual abuse. Only one participant discontinued participation due to increased suicide ideation. No other (serious) adverse events were found.

The present study has several limitations. First, the EMDR intervention was compared to a TAU control condition. This means that no comparison could be made between EMDR therapy and no treatment or between watchful waiting (TAU) and no treatment. The alternative of a waitlisted control condition was believed to be unethical in this study considering the high risk of developing psychopathology after a rape. Moreover, for clinical practice, it can be argued that the most relevant question is whether EMDR therapy is more effective than the existing care, especially given the additional expertise and financial costs that EMDR therapy requires. A second limitation of the present study was the high dropout rate. Although this study included 52 participants, only 36 completed all assessments, resulting in a drop-out rate of 31%. This rate is comparable to those in other early intervention studies with rape victims (Resnick et al., 2007; Miller et al., 2015; Nixon et al., 2016), and may be related to avoidant coping behavior. Yet, high dropout rates are likely to cause attrition bias. However, in the present study, the data were analyzed on an intention-to-treat basis. Also, the non-completers analysis found no difference between completers and dropouts in age, relationship to perpetrator, posttraumatic stress symptoms or general psychopathology. Therefore, we can assume that attrition bias is minimalized. Still, there was insufficient power for a subsequent completers analysis or other sub-sample tests. A third limitation is the sample of the present study. Although the sample size is small, prior power analysis indicates sufficient power for the analyses. However, the sample is mainly female, making it difficult to generalize the results to other genders. Yet, there is currently no evidence to suggest gender differences in the psychological care needs of rape victims (Covers, Teeuwen, & Bicanic, 2020).

We recommend that future research focus on the efficacy of watchful waiting as early intervention after rape, as it is more cost-effective than EMDR and equally effective in reducing post-traumatic psychopathology. In their study on brief cognitive-behavioural therapy (B-CBT) as early intervention after assault, Foa et al. (2006) found no difference in post-traumatic stress symptoms at three months post-trauma between those who received B-CBT, supportive counseling, or no treatment. Although this study did not differentiate between victims of sexual and non-sexual assault, its results suggest that there is no added value of supportive counseling over no treatment. However, in contrast to watchful waiting, their supportive counseling protocol refrained from discussing trauma-related symptoms nor the processing of the traumatic event with the victims (Foa et al., 2006). As inadequate processing of information regarding the traumatic event is seen as the cause of PTSD (Ehlers & Clark, 2000), adding elements to the protocol in support of adequate processing might result in different outcomes. Additionally, research suggests that psycho-education about trauma-related symptoms can reduce the development of these symptoms (Miller et al., 2015).

In conclusion, the present study found early intervention with EMDR therapy to be no more effective than watchful waiting for psychological problems, including post-traumatic stress symptoms, in victims of rape. Due to its cost-effectiveness, the present study supports the current guidelines that recommend watchful waiting for sexual assault victims (NICE, 2018) which entails that psychological symptoms are monitored and psychoeducation and support are provided during the first month post-rape.

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PART 3

THE DEVELOPMENT OF PSYCHOLOGICAL PROBLEMS AFTER RECENT RAPE

CHAPTER 7

PREDICTORS OF POST-TRAUMATIC STRESS SYMPTOMS AFTER RAPE: A PROSPECTIVE STUDY

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ABSTRACT

Background

Research on the development of post-traumatic stress disorder (PTSD) after rape has indicated several pre-existing, peritraumatic, and post-rape predictors. Among others, persistent and peritraumatic dissociation may affect the development of PTSD.

Objective

To prospectively assess the predictive value of peritraumatic and persistent dissociation and other possible predictors of post-traumatic stress symptom severity. It was hypothesized that peritraumatic and persistent dissociation would predict the development of post-traumatic stress symptoms during 12 weeks post-rape.

Method

The sample consisted of 52 victims of rape who received treatment at a sexual assault centre during the first four weeks post-rape. Pre-existing (i.e., prior sexual victimization), and peritraumatic variables (relationship to the perpetrator, peritraumatic feelings of life threat, and peritraumatic dissociation), and early symptoms of post-traumatic stress and depression were measured at two-weeks post-rape. Persistent dissociation was assessed at baseline, posttreatment, and 8- and 12-weeks post-rape. The development of post-traumatic stress symptoms was assessed at posttreatment and 8- and 12-weeks post-rape.

Results

Early symptoms of post-traumatic stress and persistent dissociation predicted the development of post-traumatic stress symptoms across 12 weeks post-rape, with more symptoms of early post-traumatic and persistent dissociation relating to higher post-traumatic stress severity.

Discussion

The findings support the notion that, aside from early symptoms of post-traumatic stress, persistent dissociation in the period following rape is an important variable in predicting PTSD development. Further research is needed to delineate the mechanisms explaining this relationship, as well as possibilities for PTSD prevention.

Post-traumatic stress disorder (PTSD) is characterized by symptoms of intrusive memories and re-experiencing, avoidance, negative cognitions, and hyperarousal (American Psychiatry Association, 2013). Evidence suggests that across all types of traumatic events, the risk of developing PTSD is highest after rape victimization (Knipscheer et al., 2020), with about half of the victims suffering from the disorder at three months post-assault (Elklit & Christiansen, 2010; Steenkamp et al., 2012; Tiihonen Möller et al., 2014). The current study aims to examine potential predictors of PTSD development following rape and a possible mechanism involved linking peri-traumatic dissociation and post-traumatic stress symptoms.

Studies on *pre-existing* factors found that age, race, and marital status were not related to the risk of developing PTSD after rape (Acierno et al., 1999; Ullman et al., 2001; Tiihonen Möller et al., 2014). An exception is prior exposure to traumatic events which has been found to increase the likelihood of developing PTSD (Follette et al., 1996; Kessler et al., 2018; Tiihonen Möller et al., 2014). More specifically, previous research suggested that exposure to earlier trauma may weaken the stress response system, as one study found that women who had experienced prior sexual assault showed lower levels of the stress hormone cortisol at the rape crisis centre visit than women who experienced a first assault (Walsh et al., 2013). Symptoms of psychopathology immediately *after* sexual assault have consistently been found to predict PTSD development, in that victims who had experienced severe post-traumatic stress symptoms or symptoms of depression during the first month after rape proved to be more likely to develop PTSD than victims who experience less severe symptoms (Acierno et al., 1999; Tiihonen Möller et al., 2014).

Regarding the *characteristics of* and *experiences during* the rape on the development of PTSD, studies have shown mixed results. For example, feelings of life-threat during the assault have been found to be related to the development of PTSD in some studies (Davidson et al., 1998; Ullman et al., 2001), but not in other studies (Tiihonen Möller et al., 2014). Also, one study found that adult victims of rape by strangers were less likely to develop PTSD than victims who knew the perpetrator (Lawyer et al., 2006), but this finding could not be replicated in other studies (McLean et al., 2014; Ullman et al., 2001; Tiihonen Möller et al., 2014). Another factor that may affect the development of PTSD is peritraumatic dissociation. Dissociation may manifest as detachment from one's surroundings, for example when objects are perceived as unreal, or detachment from the self, where time may seem to pass slowly or the body may feel numb. Peritraumatic dissociation refers to experiences of altered perception during or immediately after a traumatic event. This was found to be the strongest predictor of the development of PTSD in a meta-analysis in non-rape related traumatic events (Ozer, Best, Lipsey, & Weiss, 2003). The other predictors in this meta-analysis were prior trauma, prior

psychological adjustment, family history of psychopathology, perceived life threat during the trauma, perceived social support, and peritraumatic emotional responses. In contrast, a systematic review of prospective studies found that peritraumatic dissociation only weakly predicted PTSD (van der Velden & Wittmann, 2008). However, it is of note that this review did not include studies on victims of rape. Moreover, in a cross-sectional study among female sexual assault victims, peritraumatic dissociation proved to be related to PTSD severity (deMello et al., 2022).

Aside from *peritraumatic* dissociation during and in the immediate aftermath of a traumatic event, *persistent* dissociation following a traumatic event has also been linked to PTSD development. In fact, the results of a prospective study found that persistent dissociation as assessed at four weeks after a traffic accident predicted PTSD severity at six months significantly better than peritraumatic dissociation (Murray, Ehlers, & Mayou, 2002). Panasetis and Bryant (2003) hypothesized that those with persistent dissociation may avoid recalling their traumatic memories, thereby hindering elaboration and further processing of the traumatic memory. Yet, the relationship between persistent dissociation and PTSD has not yet been studied in victims of rape.

The purpose of the present study was to identify predictors of the development of post-traumatic stress symptoms across 12-weeks after rape. Participants of this study were victims who were referred to a sexual assault centre within seven days after the rape, where they received treatment-as-usual or EMDR therapy for PTSD during the first month post-rape. Potential predictors identified from prior research on PTSD after sexual assault were classified as pre-existing (prior sexual victimization), peritraumatic (relationship to the perpetrator, feelings of life threat,, and peritraumatic dissociation) and post-traumatic (early symptoms of posttraumatic stress, early symptoms of depression, and persistent dissociation). The hypotheses of this study were:

1. The pre-existing factor of prior sexual victimization was hypothesized to predict the development of post-traumatic stress symptoms across 12-weeks post-rape.
2. Peritraumatic dissociation was hypothesized to predict the development of post-traumatic stress symptoms across 12 weeks post-rape. Given the mixed findings on peritraumatic feelings of life threat and the relationship to the perpetrator in prior research, no a priori hypotheses related to these variables was formulated.
3. All post-traumatic factors were hypothesized to predict the development of post-traumatic stress symptoms across 12 weeks post-rape.

METHOD

Procedure and Participants

Participants of the present study were recruited for a randomized controlled trial (RCT) on early intervention with EMDR therapy after rape (Covers et al., 2019). A full description of this study's protocol is found in Covers et al. (2019). The study included 52 participants, mostly female (*n* = 51). The mean age was 25.69 (*SD* = 7.99). In this RCT, rape was defined as sexual oral, vaginal, or anal penetration without consent. Victims who were 16 years or older and referred to a Dutch sexual assault centre within one-week post-rape were eligible for participation. Exclusion criteria were not speaking Dutch, mental disability, current trauma-based treatment, and acute psychosis, suicidal ideation, or substance abuse that required immediate care. Following informed consent, participants were assessed at two weeks post-rape (baseline assessment) and received either two session EMDR therapy or treatment as usual between two- and four-weeks post-rape. Follow-up assessments took place at one week posttreatment and at eight- and 12-weeks post-rape. This trial was approved by the Medical Ethical Committee of the University Medical Centre Utrecht (NL60551.041.17).

The RCT found no difference in post-traumatic stress symptoms at post-treatment, eight weeks post-rape and 12 weeks post-rape between the EMDR therapy condition (*n* = 27) and treatment as usual condition (*n* = 25; Covers et al., 2021b). Moreover, the condition was not related to persistent dissociation either (Covers et al., 2021b). Other predictors in this study were assessed prior to randomization and are thus considered to be unrelated to the condition.

Measures

The present study utilized measures from the randomized controlled trial. Details on all measures are found in Covers et al. (2019).

Prior sexual victimization

The question 'Have you ever experienced sexual assault, prior to the last assault?' was answered with yes (1) or no (0).

Relationship to the perpetrator

The sexual assault centre reported the relationship between victim and perpetrator as defined by the victim at admission to the centre. This relationship was coded into stranger (0) and known perpetrator (1).

Life threat

At baseline, one item from the Tonic Immobility Scale (Forsyth et al, 2000) measured the level of experienced life threat during the assault. The item was scored on a 7-point Likert scale from 0 (no fear for one's life) to 6 (extreme fear for one's life).

Post-traumatic stress symptoms

Post-traumatic stress symptoms at baseline, posttreatment, eight-weeks post-rape and 12-weeks post-rape were assessed with the PTSD Checklist for the DSM-5 (PCL-5; Blevins et al., 2015). This self-reported questionnaire measured 20 symptoms of PTSD during the past week on a 5-point Likert scale from 0 to 4. The present study used the baseline assessment as a measure of early symptoms of post-traumatic stress. The other assessments were used as measures of post-traumatic stress development. The internal consistency PCL-5 in the current sample was Cronbach's $\alpha = .94$. Prior research found strong internal consistency, test-retest reliability, discriminant validity and convergent validity of the PCL-5 (Blevins et al., 2015).

Early symptoms of depression

The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) assessed symptoms of anxiety and depression during the past week at baseline. The present study used the depression scale to determine early symptoms of depression. This scale consists of seven items that are scored on a scale from 0 to 3, where higher scores indicate more severe symptoms. The internal consistency of the depression scale at pre-treatment in the current sample was Cronbach's $\alpha = .88$. The HADS was found to have good internal consistency and test-retest reliability in validation research (Spinhoven et al., 1997).

Peritraumatic Dissociation

At baseline, the Tonic Immobility Scale (TIS; Forsyth et al, 2000) measured the level of tonic immobility during the assault. Tonic immobility is an involuntary reaction to stress that presents as an inability to move, vocalize, or feel. The TIS measures three aspects of tonic immobility: (physical) tonic immobility, fear, and dissociation (Covers et al., 2021a). For the purpose of the present study, we used the two items of the dissociation scale as an operationalization of participants' level of peritraumatic dissociation (as defined in Covers et al., 2021a). One item on feeling detached from one's surroundings during the rape assessed derealisation and was scored on a scale from 0 (extreme detachment) through 6 (no detachment). Depersonalization was assessed with an item on feeling detached from one self during the rape, which was scored from 0 (no detachment) through 6 (extreme detachment). The score on the derealisation item was reverse

coded and summed with the depersonalization item to create a total peritraumatic dissociation score ranging from 0 to 12, with higher scores indicating more dissociation.

Persistent Dissociation

Persistent dissociation during the past week was assessed at baseline as well as the posttreatment, eight-week and 12-week assessments using the Dissociation Tension Scale (DTS; Stiglmayr et al., 2010). Twenty-one items were scored on a scale from 0 to 100 with higher scores indicating more dissociation experienced during the past week. The total persistent dissociation score was the mean of these 21 scores. The reliability of the DTS in the current study was Cronbach's α = .90. Prior research found high internal consistency and discriminant, convergent, and differential validity of the DTS (Stiglmayr et al., 2010).

Statistical Analysis

All statistical analyses were conducted in SPSS 27.0. The data had missing values on item-level (0.24%), caused by participants skipping an item on the questionnaires. These items were imputed using two-way imputation for the original RCT (Van Ginkel et al., 2007). Drop-out rates were comparable between treatment conditions (Covers et al., 2021). The DTS score had a non-normal distribution (skewness of .99, Shapiro-Wilk of .897, p = .003) and was therefore transformed with square root transformation, which resulted in a normal distribution (skewness of .35, Shapiro-Wilk of .956, p = .170).

To examine the predictors of the development of post-traumatic stress symptoms across 12 weeks, covariance pattern mixed model analyses were conducted with post-traumatic stress from posttreatment to 12-weeks post-rape as dependent variable, while controlling for treatment condition of the RCT. The covariance structure was modelled as first-order autoregressive. In the first analysis, fixed effects were treatment condition (EMDR therapy coded as 1 or standard care coded as 0), prior sexual victimization, and time. In the second analysis, fixed effects were treatment condition, relationship to the perpetrator, feelings of life threat, peritraumatic dissociation, and time. The third analysis included fixed effects for early symptoms of depression, early symptoms of post-traumatic stress, baseline persistent dissociation, persistent dissociation, time, and the interaction between persistent dissociation and time.

To our knowledge, no power analysis exists to determine the power of covariance pattern mixed model analysis. However, power analysis of a linear regression model with six predictors determined that in order to detect a medium effect size (f^2 = .15) with β = .80, the required sample size was 55. For a large effect size (f^2 = .35) with β = .80, a sample of 26 was needed.

RESULTS

Table 1 displays the means and standard deviations of the measures in this study. Pearson's correlations showed post-traumatic stress to be correlated with early symptoms of depression, early symptoms of post-traumatic stress, and persistent dissociation (Table 2). Moreover, peritraumatic dissociation was related to early symptoms of depression, early symptoms of post-traumatic stress an post-traumatic stress symptoms at posttreatment, and persistent dissociation at baseline and posttreatment.

The estimates of the analysis of pre-existing factors showed no main effect for prior sexual victimization (Table 3). Also, the analysis of peritraumatic factors showed no main effect of the relationship to the perpetrator, experience of life threat, and peritraumatic dissociation on the development of post-traumatic stress (Table 4). In contrast, the results showed a main effect of early symptoms of post-traumatic stress. However, there was a stronger significant main effect of persistent dissociation. The interaction between persistent dissociation and time showed that the effect of persistent dissociation became stronger over between posttreatment and 12 weeks post-rape.

Table 1. Baseline and follow-up clinical characteristics

	n	%	*M*	*SD*
Pre-traumatic				
Prior sexual victimization	32			
Yes	11	34.4%		
No	21	65.6%		
Peri-traumatic				
Relationship to perpetrator	51			
Known	39	75.0%		
Unknown	12	23.1%		
Life threat	49		2.02	2.21
Peritraumatic dissociation	49		6.92	3.37
Post-traumatic				
Early symptoms of depression	52		9.79	4.47
Early symptoms of post-traumatic stress	52		46.72	13.46
Persistent dissociation				
Baseline	52		4.88	2.04
Posttreatment	41		3.09	1.81
8 weeks	37		2.64	1.73
12 weeks	36		2.10	1.40
Post-traumatic stress symptoms				
Posttreatment	42		34.89	14.62
8 weeks	38		28.53	18.62
12 weeks	37		22.64	16.90

Table 2. Pearson's correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Post-traumatic stress symptoms posttreatment												
2. Post-traumatic stress symptoms 8 weeks	.779**											
3. Post-traumatic stress symptoms 12 weeks	.618**	.863**										
4. Prior sexual victimization	.037	.056	.025									
5. Relationship to perpetrator	.106	.141	.033	-								
6. Life threat	.135	.135	.246	.341	.010							
7. Peritraumatic dissociation	.337*	.261	.209	.166	.064	.143						
8. Early symptoms of depression	.303*	.361*	.467**	-.077	-.089	.160	.321*					
9. Early symptoms of post-traumatic stress	.600**	.574**	.454**	-.044	.102	.213	.513**	.655**				
10. Persistent dissociation baseline	.438**	.406*	.475**	.030	.046	.275	.443**	.597**	.759**			
11. Persistent dissociation posttreatment	.644**	.511**	.467**	.209	.151	.201	.338*	.176	.462**	.583**		
12. Persistent dissociation 8 weeks	.577**	.665**	.672**	.075	.085	.124	.229	.269	.491**	.566**	.799**	
13. Persistent dissociation 12 weeks	.542**	.634**	.767**	.145	.035	.344*	.148	.349*	.387*	.539**	.677**	.858**

Note. No correlation was calculated between prior sexual assault and relationship to perpetrator, as both these variables are categorical. The DTS scores were transformed with square root transformation. * $p < .05$, ** $p < .01$

Table 3. Estimate outcomes of pre-traumatic predictors of post-traumatic stress development

	Estimate	SE	*t*	95% CI
Intercept	32.36	5.57	5.81**	21.05, 43.68
Treatment condition	4.88	5.43	0.90	-6.19, 15.96
Prior sexual victimization	-0.32	5.67	0.96	-11.89. 11.24
Time				
8 weeks post-rape	-5.78	1.94	-2.98**	-9.67, -1.90
12 weeks post-rape	-10.64	2.59	-4.11**	-15.81, -5.48

Note. Reference categories are EMDR treatment condition, prior sexual victimization ('yes'), and posttreatment assessment.

Table 4. Estimate outcomes of peritraumatic predictors of post-traumatic stress development

	Estimate	SE	*t*	95% CI
Intercept	23.90	6.59	3.63**	10.59, 37.21
Treatment condition	1.82	4.71	0.39	-7.72, 11.35
Relationship to perpetrator	-0.57	5.68	-0.10	-12.07, 10.93
Life threat	0.84	1.04	0.81	-1.26, 2.94
Peritraumatic dissociation	1.19	0.76	1.57	-0.35, 2.72
Time				
8 weeks post-rape	-5.64	1.78	-3.18**	-9.18, -2.10
12 weeks post-rape	-11.02	2.39	-4.61**	-15.78, -6.27

Note. Reference categories are EMDR treatment condition, known perpetrator, and posttreatment assessment.

Table 5. Estimate outcomes of post-traumatic predictors of post-traumatic stress development

	Estimate	SE	*t*	95% CI
Intercept	4.59	6.73	0.68	-8.98, 18.16
Treatment condition	-2.65	3.56	-0.75	-9.85, 4.54
Early symptoms of depression	0.13	0.57	0.23	-1.01, 1.27
Early symptoms of post-traumatic stress	0.54	0.20	2.63*	0.13, 0.95
Persistent dissociation at baseline	-2.60	1.30	-2.00	-5.22, 0.02
Persistent dissociation	5.44	0.92	5.92**	3.62, 7.26
Time				
8 weeks post-rape	-6.52	2.75	-2.37*	-12.00, -1.03
12 weeks post-rape	-12.57	3.49	-3.61**	-19.50, -5.65
Time x persistent dissociation				
8 weeks post-rape	1.36	0.81	1.69	-0.25, 2.96
12 weeks post-rape	3.20	1.20	2.66**	0.81, 5.59

Note. Reference categories are EMDR treatment condition and posttreatment assessment. Persistent dissociation estimates are based on transformed data.

DISCUSSION

This study aimed to examine possible predictors of the development of post-traumatic stress symptoms during 12 weeks after rape in victims who received early treatment at a sexual assault centre. We studied pre-traumatic, peritraumatic, and post-traumatic factors that were found to predict post-traumatic stress in prior research, including peritraumatic and persistent dissociation. The results show that no pre-existing (prior sexual victimization) or peritraumatic (the relationship to the perpetrator, experiencing life threat during the rape, and peritraumatic dissociation) was related to post-traumatic stress symptoms across 12 weeks post-rape. Conversely, and in line with our third hypothesis, persistent dissociation was found to be a strong predictor of post-traumatic stress symptoms, in that higher persistent dissociation was related to higher post-traumatic stress symptoms. This effect increased over time. Early symptoms of post-traumatic stress also predicted the development of post-traumatic stress symptoms, whereas, in contrast to the hypothesis, early symptoms of depression did not.

Whereas a previous study by Tiihonen Möller and colleagues (2014) found that prior traumatic events predicted post-traumatic stress symptoms after rape, we found no effect of prior sexual assault. This finding indicates that the risk of post-traumatic stress symptoms after rape may be increased by more traumatic life events in general, but not sexual revictimization in particular. However, the present study did not differentiate between prior childhood or adult victimization, nor between severity or type of prior victimization. More research investigating the relationship between specific types of prior traumatic experiences and post-traumatic stress symptoms after subsequent sexual assault will thus be needed to understand the relationship between prior victimization and revictimization.

Regarding peritraumatic factors, the findings in the current study on experiencing life threat and the relationship to the perpetrator are in line with those of Tiihonen Möller et al. (2014), who also studied predictors of post-traumatic stress at a sexual assault centre. Similar to the Dutch sexual assault centres, this centre specializes in medical care, forensic examination, and psychological help for victims of a recent rape. Research that took place outside of this context of specialized care found significant associations between the relationship to the perpetrator and post-traumatic stress symptoms, and between experiencing life threat and post-traumatic stress symptoms (Davidson et al., 1998; Lawyer et al., 2006; Ullman et al., 2001). Yet, these relationships were not found in the present study nor in that of Tiihonen Möller et al. (2014). Possibly, effects were weakened by the specialized care and psychoeducation that the sexual assault centres in the current study provide. Additionally, Davidson et al. (1998) and Ullman

et al. (2001) studied predictors in the general population on a longer time frame and retrospectively, where participants had experienced sexual assault on average 4.5 and 9.36 years before study participation, respectively. Factors operating at the moment of retrieval (e.g., current symptoms), however, may have influenced the reports of (severity of) predictors (cf., Engelhard & McNally, 2015) and predictors of the development of posttraumatic stress symptoms in the short run may differ from the predictors of the persistence of symptoms across several years.

Although peritraumatic dissociation was found to be a strong predictor of PTSD in a meta-analysis in non-rape trauma survivors (Ozer, Best, Lipsey, & Weiss, 2003), this was not the case in our sample of rape victims. However, another study on survivors of rape also found no significant relationship between peritraumatic dissociation and posttraumatic stress symptoms (Tiihonen Möller et al., 2014). According to Bryant (2007), the assessment of peritraumatic dissociation in relation to PTSD may be inaccurate as many factors are involved in the reactions of survivors during trauma. More specifically, Bryant (2007) hypothesized that peritraumatic dissociation is related to panic, which may be a more accurate predictor of PTSD than peritraumatic dissociation.

It is important to note that this is the first study that examined the predictive role of persistent dissociation in the development of post-traumatic stress symptoms in victims of rape. Similar to the findings of Panasetis and Bryant (2003), persistent dissociation appeared to be a more important factor for the development of post-traumatic stress than peritraumatic dissociation. In fact, the present study found persistent dissociation to be the most significant predictor of post-traumatic stress symptom development. Furthermore, the increasing effect over time indicates that dissociative symptoms becomes more relevant to the development of post-traumatic stress the longer these symptoms persist. These findings support the hypothesis that ongoing dissociation inhibits the inclination to activate the traumatic memory, which therefore cannot be processed, leading to psychopathology (Bryant, 2007). Yet, more research is needed to explain the working mechanisms underlying the connection between persistent dissociation and post-traumatic stress symptoms and the specific components of persistent dissociation involved.

Lastly, early symptoms of post-traumatic stress predicted the development of post-traumatic stress across 12 weeks. This finding is in line with research that found that women who develop PTSD six months after sexual assault had experienced higher post-traumatic stress symptom severity during the first month post-assault, than women who did not develop PTSD (Tiihonen Möller et al., 2014). However, almost all victims of rape meet the cut-off for clinically relevant post-traumatic stress immediately after rape

(Rothbaum et al., 1992; Steenkamp et al., 2012; Tiihonen Möller et al., 2014). Therefore, determining the risk of PTSD by the level of early post-traumatic stress may be difficult in clinical practice. Instead, symptoms ought to be monitored over time to determine the development of post-traumatic stress (Steenkamp et al., 2012).

The results of this study should be considered in light of its limitations. Foremost, the sample was primarily female, which precludes generalization to male victims of rape. Additionally, the participants had all sought professional care after experiencing sexual assault. However, it is well known that most victims do not seek help (Ahrens et al., 2007). As the development of psychopathology may be influenced by disclosure, social reactions to disclosure, and the psychological care of sexual assault centres, the results of this study may not represent those victims who do not seek help. As such, more research is needed into those who do not seek help immediately after rape, which includes most male victims (Masho et al., 2010). Lastly, sample size precluded the ability to analyse all predictors into one model. However, the findings that no pre-traumatic or peritraumatic factors predicted post-traumatic stress development is unlikely to change in such a model, as the only significant predictors occurred after these factors had established..

In conclusion, the current findings suggest that early symptoms of post-traumatic stress and dissociative symptoms that persist after rape are crucial in predicting the development of PTSD. On the other hand, this study suggests that characteristics of the victim or the assault, as well as the peritraumatic experiences, may be of less relevance to the development of PTSD following rape. Based on these findings, clinical practitioners are advised to be observant of signs of dissociation in their clients during the weeks after rape, in addition to early symptoms of post-traumatic stress, as these symptoms may indicate early development of PTSD. Regarding dissociation, clinicians may look out for descriptions of numbness or out-of-body experiences, or may observe avoidance, inattentiveness, or amnesia. Possibly, this may generate opportunities for the prevention and early intervention of post-traumatic stress after rape.

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CHAPTER 8

SEXUAL DYSFUNCTION, PELVIC FLOOR OVERACTIVITY AND POST-TRAUMATIC STRESS AFTER RECENT RAPE

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ABSTRACT

Background

Many female victims of rape suffer from post-traumatic stress symptoms, sexual dysfunction, and pelvic floor overactivity (PFO). In fact, sexual dysfunction and PFO have been found to be related to the severity of post-traumatic stress disorder (PTSD). In the first weeks after rape, most victim of rape experience acute post-traumatic stress symptoms. However, little is known about the connection between these symptoms on the one hand, and sexual dysfunction and PFO on the other after recent rape.

Objective

The aim of this study was to examine the relationship between symptoms of post-traumatic stress and sexual dysfunction and PFO at 2 weeks after rape. Additionally, this study aimed to examine whether the severity of post-traumatic stress after 12 weeks is related to changes in sexual dysfunction and PFO between 2 and 12 weeks.

Method

Women who experienced rape and had been referred to a sexual assault center were asked to participate in an RCT on early intervention for post-traumatic stress symptoms. Participants (n = 51) completed questionnaires on post-traumatic stress symptoms, sexual dysfunction, and pelvic floor overactivity at 2-weeks and 12-weeks post-rape.

Results

More post-traumatic stress was related to lower sexual functioning (in sexually active women) and to more PFO. Also, higher post-traumatic stress was associated with lower sexual desire and satisfaction in women who had been sexually active during the past week, but not in women who had not been sexually active. Across all participants, higher post-traumatic stress severity at 12 weeks was related to a larger decline in sexual desire and satisfaction between 2 and 12 weeks. However, post-traumatic stress at 12-weeks post-rape was not related to changes in PFO.

Conclusion

The findings of this study suggest that acute post-traumatic stress symptoms affect sexual functioning and sexual desire and satisfaction in women who had recently engaged in sexual activity. Moreover, findings suggest that the recovery from post-traumatic stress immediately after rape coincides with an improvement of sexual desire and satisfaction. However, acute post-traumatic stress affects the pelvic floor, which does not recover in unison with post-traumatic stress. Clinicians are advised to monitor pelvic floor overactivity in victims of recent rape.

Following sexual assault, many women develop sexual dysfunction, specifically low or absent sexual satisfaction, lubrication problems, and pain during intercourse (Faravelli et al., 2004; Lutfey et al., 2008; Postma et al., 2013). Additionally, victims of sexual assault report symptoms associated with pelvic floor overactivity (PFO), such as vulvodynia, recurrent urinary tract infection, frequent micturition, and an irregular defecation pattern characterized by alternating obstipation and diarrhea (Laan & van Lunsen, 2016; Paras et al., 2009; Postma et al., 2013; Sadler et al., 2012). PFO was also found to partially mediate the development of sexual dysfunction in adolescent victims of sexual assault, in that those with more pelvic floor overactivity experienced more sexual dysfunction (Postma et al., 2013).

Aside from sexual dysfunction and PFO, victims of sexual assault have a high risk of developing post-traumatic stress disorder (PTSD). Almost all victims of rape experience post-traumatic stress symptoms immediately post-rape (Rothbaum et al., 1992; Steenkamp et al., 2012; Covers et al., 2021), which progresses to PTSD within three months in about 40% of the victims (Elklit & Christiansen, 2010; Tiihonen Möller et al., 2014). A link between PTSD and sexual dysfunction was first established by Letourneau et al. (1996), who found that women who experienced sexual dysfunction had more severe PTSD, regardless of the type of trauma that caused the PTSD. Additionally, Bornefeld-Ettmann et al. (2017) found that patients with PTSD due to childhood sexual or physical abuse were more likely to experience sexual dysfunction than victims without PTSD and non-victims, whereas victims without PTSD and non-victims did not differ in sexual dysfunction. These findings suggest that sexual dysfunction was related to PTSD rather than the childhood trauma. A positive correlation between PTSD severity and sexual dysfunction severity was also found in male and female veterans (Hosain et al., 2013; Schnurr et al., 2009). PFO was also found to be related to PTSD symptoms but not to trauma exposure or trauma type (Karsten et al., 2020). These studies suggest that sexual dysfunction and pelvic floor overactivity are related to PTSD, regardless of trauma type.

Theoretically, the relationship between PTSD and sexual dysfunction in victims of sexual assault can be explained by the specific characteristics of PTSD (Yehuda et al., 2015). Sexual stimuli may trigger intrusive memories or flashbacks, leading to sexual problems due to avoidance of sexual stimulation. Also, PTSD patients experience a heightened reactivity to threat, which is associated with augmented muscle activity in the pelvic floor, leading to difficulties with the genital response of sexually arousal (Van der Velde et al., 2001).

Although the connection of PTSD to both sexual dysfunction and PFO is not related to the type of trauma, the connection may still be especially relevant in victims of rape, because of the high prevalence of post-traumatic stress immediately after the assault. The above-mentioned literature suggests that victims can also experience sexual dysfunction and PFO immediately post-rape, as these symptoms are related to post-traumatic stress. While research has found the presence of sexual dysfunction and PFO immediately after rape (Covers et al., 2021), it is unknown whether the symptoms of these conditions are related to the severity of the early post-traumatic stress. Moreover, since many victims recover from early post-traumatic stress symptoms, the question arises whether these victims also regain normal sexual and pelvic floor functioning.

Prior research has studied the relationship between recovery from PTSD on the one hand, and sexual dysfunction and PFO on the other hand. However, this research has been inconclusive. Specifically, a cross-sectional study with 89 female victims of adolescent rape found that three years after successful treatment for PTSD, rape victims were still 2.4 times more likely to experience sexual dysfunction and 2.7 times more likely to experience PFO than age-matched non-victims (Postma et al., 2013). However, in a longitudinal study on 231 female military personnel, Schnurr et al. (2009) found that those who no longer met the criteria for PTSD after trauma-focused treatment had fewer sexual concerns (i.e., negative emotions about sex) at six months post-treatment, when compared to those who still met the criteria for PTSD diagnosis.

The present study aimed to examine how sexual dysfunction and PFO develop in relation to post-traumatic stress shortly after rape. First, we examined the relationship between post-traumatic stress on the one hand, and sexual dysfunction and PFO on the other hand, at two weeks after the rape in female victims of rape who received care at a sexual assault center during the first month post-rape. It was hypothesized that higher post-traumatic stress severity would be associated with lower sexual functioning. Likewise, it was hypothesized that higher post-traumatic stress severity would be associated with more PFO. Second, we examined whether lower post-traumatic stress after 12 weeks is related to improvement of sexual dysfunction and PFO. For that reason, the relationship between post-traumatic stress severity at 12-weeks post-rape and the change in sexual dysfunction between two- and 12-weeks post-rape was studied. Likewise, we examined the relationship between post-traumatic stress severity at 12-weeks post-rape and the change in PFO between two- and 12-weeks post-rape Due to the inconclusive prior research findings, no a priori hypotheses were formulated.

METHOD

Participants and Procedure

Female participants were recruited at a Dutch sexual assault center for a randomized controlled trial to examine the efficacy of early intervention with EMDR therapy after rape (for the full study protocol, see Covers et al., 2021). The trial was approved by the Medical Ethical Committee of University Medical Centre Utrecht (NL60551.041.17). Participants were older than 16 and had been victimized by rape within one week prior to study participation. Rape was defined as self-reported vaginal, oral, or anal penetration without consent. Victims were excluded in case of not speaking Dutch, intellectual disability, involvement in trauma-focused treatment at the time of study recruitment, or suffering from acute psychosis, substance abuse or suicidal ideation that required immediate care. Participants were randomly assigned to either standard care ('watchful waiting', entailing counselling and monitoring via two telephone calls by a trained case manager) or two sessions of EMDR therapy between two and four weeks post-rape. The EMDR treatment was not more effective than standard care in reducing post-traumatic stress symptoms, sexual dysfunction, or PFO (Covers et al., 2021). Symptoms of psychopathology were assessed at two weeks post-rape (baseline), post-treatment, and again at eight and 12-weeks post-rape. The present study included only the baseline and 12-week assessments of the 51 female participants of the trial, with a mean age of 25.82 (*SD* = 8.01).

Measures

Post-traumatic stress symptoms

The Dutch version of the PTSD Checklist for the DSM-5 (PCL-5; Blevins et al., 2015; Boeschoten et al., 2014) was used to measure post-traumatic stress symptoms at all assessments. The present study uses the baseline assessment and the 12-week assessment. The 20-item questionnaire measured symptoms of the past week. Items were scored on five-point Likert scales ranging from 0 (not at all) to 4 (extremely), resulting in a range of total symptom severity from 0 to 80. A score over 31 is considered clinically significant (Bovin et al., 2016). The internal consistency of the PCL-5 was Cronbach's α = .936. The PCL-5 was also found to have strong internal consistency, test-retest reliability, discriminant validity and convergent validity in prior research (Blevins et al., 2015).

Sexual dysfunction

Sexual dysfunction was assessed at baseline (measuring problems of the past week) and 12-weeks post-rape (measuring problems of the past month) using the Female Sexual Function Index (FSFI; Rosen et al., 2000). This questionnaire measures dysfunction in

the domains of sexual desire, sexual arousal, lubrication, orgasm, satisfaction, and pain, with 19 questions being scored on a five-point Likert scale. The FSFI provides six domain scores and a total dysfunction score. Because four domain scores are dependent on whether respondents are sexually active at that time (either alone or with a partner), we used the total dysfunction score for sexually active victims only (ranging from 1.6 to 36), and a summed score of the desire and satisfaction domains (ranging from 1.6 to 12) for all victims, regardless of whether they had engaged in sexual activity. Lower scores on the FSFI indicate more sexual dysfunction. A total score of 26 or lower was found to indicate sexual dysfunction (Wiegel et al., 2005). The internal consistency of the FSFI was Cronbach's α = .974. Prior research also found high internal consistency and discriminant validity of the FSFI (Wiegel et al., 2005).

Pelvic floor overactivity

Symptoms of pelvic floor overactivity were assessed using the Amsterdam Overactive Pelvic Floor Scale (AOPFS; van Lunsen & Laan, 2007) at baseline and 12-weeks post-rape. This questionnaire contains 30 items measuring symptoms of provoked vulvodynia, irritable bowel syndrome, lower urinary tract symptoms, urinary tract infection, rectal symptoms, and physical stress. All items are scored on five-point Likert scales ranging from 1 (never) to 5 (very often), with a mean total score ranging from 6 to 30. Research found that a score of 11 or higher represented clinically significant pelvic floor overactivity (Laan & Van Lunsen, manuscript in preparation). Internal consistency of the AOPFS was Cronbach's α = .898.

Statistical analysis

To determine the connection between early post-traumatic stress symptoms and sexual dysfunction, and between early post-traumatic stress symptoms and PFO, Pearson correlation analyses were performed. Given the evidence of correlations from prior research, the significance test was one-sided. The a priori power analysis that a sample size of 23 was needed to detect a large effect size (r = .5) with β = .80.

Furthermore, to examine the association between post-traumatic stress symptoms at 12-weeks post-rape and the change in sexual dysfunction or PFO between two- and 12-weeks post-rape, two regression analyses were performed. The dependent variable was the post-traumatic stress symptom severity. The independent variable were the change in sexual dysfunction or the change in PFO (calculated by subtracting the 12-week assessment from the two-week assessment), respectively. These treatment allocation of the randomized controlled trial (EMDR or standard care) was added as a covariate in the regression analyses. The R^2 statistics from the 20 imputations were pooled by averaging (van Ginkel, 2019). The pooled F statistic was produced using the

MI-mul2 syntax by van Ginkel (2017). The a priori power analysis determined that the detection of a medium effect size (f^2 = .15) with β = .80 required a sample size of 55. For a large effect size (f^2 = .35) with β = .80, a sample of 25 was needed.

The data had 4.6% missing values on item-level, which were caused by participants who skipped or missed an item on the PCL-5, FSFI, or AOPFS at the two- week or 12-week assessments. For the RCT (Covers et al., 2021), these values had been imputed using two-way imputation (Van Ginkel et al., 2007). On a scale level, out of 51 participants, 37 participants had missing values, caused by study dropout (n = 16, equal between treatment conditions) and not being sexually active (i.e., missing FSFI total score, n = 32 at baseline and n = 11 at 12 weeks). Across all scale-level values, 29.0% was missing. For the regression analyses of this study, the missing values were estimated using multiple imputation. Because the majority of FSFI total scores were missing due to participants not being sexually active, multiple imputation of the FSFI total score was at risk of bias. Therefore, the FSFI total score was excluded from imputation and the regression analyses. The remaining data consisted of 23.0% missing scale-level values. Prior analyses found no differences between complete and incomplete cases (see Covers et al., 2021 for full analyses). However, the analysis of possible auxiliary variables for the present study found a difference in baseline FSFI desire and satisfaction score between complete and incomplete cases (t = 2.27, df = 49, p = .029). The data was therefore considered to be Missing at Random (MAR), and baseline FSFI desire and satisfaction was added to the multiple imputation as auxiliary variable. Twenty multiple imputation datasets were created with fully conditional specification (FCS).

RESULTS

On average, the women in this study reported a clinically significant level of post-traumatic stress symptoms (cut-off score of 31; Bovin et al., 2016) two weeks after the rape event (Table 1). PFO was above the clinical cut-off score of 11. Women who reported sexual activity during the past week had experienced clinically significant sexual dysfunction (cut-off score of 26; Wiegel et al., 2005). The average level of sexual desire and satisfaction across all participants was even lower than that of women who receive clinical care for sexual dysfunction (between 6.37 and 8.05 in Wiegel et al., 2005). However, the women in the study by Wiegel et al. (2005) all reported on recent sexual activity, whereas many participants of the present study had not engaged in sexual activity during the past week. Therefore, we analyzed whether the level of sexual desire and satisfaction differed between participants who were sexually active during the past week (n = 19) and participants who were not (n = 32). This post-hoc

analysis showed that women who had engaged in sexually activity reported significantly higher scores (i.e., less dysfunction) on the FSFI desire and satisfaction scales (M = 6.48, SD = 2.45) than women who had not been sexually active (M = 2.90, SD = 1.00, t = 6.09, df = 49, p < .001).[4]

Table 1. Means (SD) of post-traumatic stress, sexual dysfunction, sexual desire and satisfaction, and pelvic floor overactivity.

	Two weeks post-rape			12 weeks post-rape			
	n	***M***	***SD***	***n***	***M***	***SD***	**Pooled mean**
PCL-5	51	46.78	13.58	36	23.16	16.84	23.87
FSFI total	19	18.68	7.40	24	22.28	7.76	-
FSFI desire and satisfaction	51	4.23	2.42	35	5.66	2.80	5.72
AOPFS	51	11.47	3.97	35	10.08	2.58	10.24

Note. Two-week post-rape variables have no pooled mean because there was no missing data at baseline. Total sexual dysfunction was not included in the multiple imputation and therefore does not have a pooled mean. PCL-5 = PTSD checklist for the DSM-5, FSFI = Female Sexual Functioning Index, AOPFS = Amsterdam Overactive Pelvic Floor Scale.

The correlation analyses (Table 2) show that at two weeks after rape, higher post-traumatic stress is related to lower sexual functioning (r = -.59, p < .01, 95% CI_{low} = -.82) and more PFO (r = .53, p < .05, 95% CI_{high} = .70). The effect size of the correlation between post-traumatic stress and sexual desire and satisfaction was too low to detect in this sample. Given the difference in this score between women who had been sexually active during the past week and women who had not, post-hoc analyses were performed to determine whether this correlation differed as well. The correlation between PCL-5 and FSFI desire and satisfaction in women who had been sexually active during the past week was r = -.52 (p < .05) at two-weeks post-rape, whereas this correlation was r = -.23 (p > .05) in women who had not been sexually active.

Table 2. Correlation between measures at two-weeks post-rape

	n	***M***	***SD***	**1**	**2**	**3**
PCL-5	51	46.78	13.58			
FSFI total	19	18.68	7.40	-.59**		
FSFI desire and satisfaction	51	4.23	2.42	-.25*	.93**	
AOPFS	51	11.47	3.97	.53**	-.55**	-.28*

Note. ** p < .01, * p < .05 for one-tailed Pearson correlation. PCL-5 = PTSD checklist for the DSM-5, FSFI = Female Sexual Functioning Index, AOPFS = Amsterdam Overactive Pelvic Floor Scale.

4 No difference was found between sexually active and not sexually active women in PCL-5 score (t = -0.23, p = .819) and AOPFS score (t = -0.12, p = .904) at two-weeks post-rape.

The pooled mean for the change in sexual desire and satisfaction between the two- and 12-week assessments was -1.49, indicating increasing desire and satisfaction. The change in sexual desire and satisfaction was significantly related to the severity of post-traumatic stress at 12-weeks post-rape (B = 2.21, SE = 1.01, t = 2.20, p = .028, 95% CI = [0.24, 4.19]) after controlling for treatment condition (B = -1.53, SE = 4.79, p = .750). The pooled effect size of this model was R^2 = .12 (f^2 = .14). Given the relationship between recent sexual activity and sexual desire and satisfaction at two-weeks post-rape, a post-hoc regression analysis was performed where past-week sexual activity at two-weeks post-rape was added as a covariates, coded as 0 (not active) and 1 (active). In this model, the change in sexual desire and satisfaction was significantly related to the severity of post-traumatic stress at 12-weeks post-rape (B = 2.88, SE = 1.09, t = 2.65, p = .009, 95% CI = [0.74, 5.50]) after controlling for treatment condition (B = -3.70, SE = 4.88, p = .448) and sexual activity at two-weeks post-rape (B = 9.36, SE = 5.60, p = .095). The pooled effect size of this model was R^2 = .19 (f^2 = .23). The findings of both models indicate more positive change in sexual dysfunction (i.e., increasing dysfunction) for those with higher post-traumatic stress after 12 weeks.

For the change in PFO, the pooled mean was 1.23. The change in PFO between two- and 12-weeks post-rape was not related to post-traumatic stress at 12-weeks post-rape (B = 0.37, SE = 0.87, t = 0.42, p = .672, 95% CI = [-1.35, 2.09]) after controlling for treatment condition (B = -2.21, SE = 5.06, p = .662), indicating that PFO develops independently from post-traumatic stress in the period immediately after rape.

DISCUSSION

This study aimed to examine the development of sexual dysfunction and pelvic floor overactivity (PFO) in relation to post-traumatic stress immediately after rape. These relationships were examined in a sample of female victims who had been referred to a sexual assault centre, and received either standard care or early intervention with EMDR therapy within the first month post-rape. A previous study found that these interventions were equally effective for reducing post-traumatic stress symptoms, sexual dysfunction, and PFO (Covers et al., 2021).

As hypothesized, at two-weeks post-rape, more post-traumatic stress severity was related to more sexual dysfunction in women who engaged in sexually activity during the past week, either alone or with a partner. This finding supports the notion that in victims with higher post-traumatic stress, sexual activity triggers intrusive memories, heightened arousal, and avoidance, resulting in sexual dysfunction (Yehuda et al.,2015).

Another explanation is that sex can be affected during stress, similar to appetite and sleep as part of our daily routine. Since sexual dysfunction at two-weeks post-rape could not be assessed in the participants who had not recently been sexually active, we further analysed the level of sexual desire and satisfaction in all participants. First, at two-weeks post-rape, we found that women who had not recently been sexually active had lower sexual desire and satisfaction than women who engaged in sexually activity during the past week. Second, we found that higher post-traumatic stress was related with lower desire and satisfaction in women who had been sexually active during the past week. These findings may indicate that women who have sex while suffering from acute post-traumatic stress symptoms after a rape, experience more difficulty in their sexual functioning, which creates a feeling of dissatisfaction with their sex lives and lowers their desire for future sexual activity. In contrast, sexual desire and satisfaction was not related to post-traumatic stress severity in women who had not been sexually active during the past week. These women had low sexual desire and satisfaction regardless of the severity of their post-traumatic stress. Possibly, the absence of sexual activity precludes the suggested mediation of sexual functioning between post-traumatic stress symptoms and sexual desire and satisfaction.

Additionally, the present study found that lower post-traumatic stress symptoms after 12 weeks were associated with an increase in sexual desire and satisfaction between two and 12 weeks post-rape. These findings suggest that when women recover from the high levels of post-traumatic stress that are experienced immediately after rape, their sexual functioning improves simultaneously. Our findings support those of Schnurr et al. (2009), who found that PTSD recovery after treatment resulted in fewer sexual concerns. Moreover, Postma et al. (2013) used the FSFI in a sample of rape victims who had been successfully treated for PTSD, and found a mean desire and satisfaction score of 8.41. This score is considerably higher than in the present study (M_{pooled} = 5.72 at 12-weeks post-rape) and did not significantly differ from non-victims, which implies that further PTSD recovery improves sexual desire and satisfaction even more. Unfortunately, the present study was unable to assess the changes in the total sexual functioning. Therefore, it is unknown whether other aspects of sexual functioning, meaning sexual arousal, lubrication, orgasm, and pain also improve with decrease of post-traumatic stress.

The present study also examined PFO after rape. As hypothesized, at two-weeks post-rape, more post-traumatic stress was related to more PFO. This finding is in line with prior research connecting post-traumatic stress symptoms to problems of the pelvic floor (Karsten et al., 2020). Moreover, our results show an average improvement in PFO between two and 12 weeks after rape that was unrelated to the severity of post-

traumatic stress symptoms at 12 weeks post-rape. This finding may suggest that PFO develops independently from post-traumatic stress symptoms. This finding contrasts those of Karsten et al. (2020), who found that, in a sample of women with obesity and a history of infertility, those with PTSD experienced more PFO than those without PTSD. However, it should be noted that only 27% of the sample of that study had experienced sexual assault (Karsten et al., 2020). Perhaps the relationship between PFO and post-traumatic stress symptoms differs across various types of traumatic experiences. Specifically in victims of rape, it is notable that the mean score on the AOPFS at 12 weeks post-rape in the present study (M_{pooled} = 10.24) was similar to that found at more than three years post-rape by Postma et al. (2013; *M* = 10.42, *SD* = 2.86). This cross-sectional study found significantly more PFO in rape victims than non-victim controls, even though these victims had been successfully treated for PTSD (Postma et al., 2013). This could indicate that PFO does not significantly change during three years after rape.

The pelvic floor is a set of skeletal muscles that can become too tightly contracted, leading over time to the condition of PFO. This condition may take longer than 12 weeks to fully develop. Although the AOPFS measured more symptoms at two weeks post-rape than after 12 weeks, it is unknown whether this instrument has the validity to be used so soon after a traumatic event. At two weeks post-rape, the instrument may have measured the post-traumatic stress response instead, such as physical reactions to intrusions, hypervigilance, or increased reactivity. Research into the onset of PFO, as well as the AOPFS psychometrics, is needed. Still, the findings from these studies suggest that PFO development is not related to post-traumatic stress severity. Therefore, additional monitoring and specific treatment that targets these symptoms may be needed.

The present study has several limitations. First, we had no information about pre-rape post-traumatic stress symptoms, PFO, and sexual dysfunction. These symptoms may have been present in some victims prior to the rape, especially if victims had experienced sexual assault earlier in life. Second, sample sizes were small, resulting in insufficient power to detect small effect sizes. Also, the small sample size precluded the FSFI total scores from being analyzed over time, resulting in limited conclusions about sexual dysfunction in relation to post-traumatic stress. In future studies, larger sample sizes are needed to account for victims who are not sexually active during the study. Third, as previously stated, the psychometrics properties of the AOPFS have not yet been examined. Lastly, all participants of this study received some form of early treatment after the rape. This also meant that all participants had disclosed their experience within a week after the assault. However, most victims of sexual assault do

not disclose nor seek help that soon. The development of PTSD, sexual dysfunction, and PFO may all be affected by early disclosure, help-seeking, and intervention. As such, the findings of this study may not be generalizable to all victims of sexual assault.

In conclusion, the findings of this study suggest that the post-traumatic stress that most females experience directly after rape are related to sexual functioning and sexual desire and satisfaction in women who participate in sexual activity after the rape. Sexual desire and satisfaction improve in victims who experience fewer post-traumatic stress symptom after 12 weeks. However, PFO alleviates regardless of the post-traumatic stress severity. Therefore, medical professionals and psychologists are advised to actively monitor the symptoms of PFO in victims of rape. Additionally, the normalization of pelvic floor overactivity should be integrated into psychoeducation for victims of recent rape. The role of sex in the aftermath of rape should be studied further, not only to understand how sex and intimacy can be negatively affected, but also to examine its role in the recovery after trauma.

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CHAPTER 9

GENERAL DISCUSSION

This dissertation aimed to investigate how mental health care for victims of a recent sexual assault can be improved. First, the Dutch sexual assault centres were evaluated by analysing the strengths, weaknesses, opportunities, and threats of the services, as well as the use of these services by male victims. Second, the efficacy of an early psychological intervention after rape was examined. To this end, the application of EMDR therapy as early intervention was examined in a randomised controlled trial. Third, predictors of PTSD development were examined in victims of rape, as well as the correlation between PTSD and sexual dysfunction and pelvic floor overactivity.

In this general discussion, the main findings of this thesis are summarized, and the implications of these findings for clinical practice and future research are discussed.

Evaluation of multidisciplinary approach to Sexual Assault Centres

As of 2018, sixteen sexual assault centres (SACs) exist in the Netherlands. Chapter 2 describes the formation of these centres and how their services are provided. The multidisciplinary approach of the SACs is mirrored after the Sexual Assault Response Teams in the United Stated, the rape crisis centres in Scandinavia, and the Sexual Assault Referral Centres in the United Kingdom (Bang, 1993; Lovett et al., 2004). Sexual victimization is a multidisciplinary issue, since it affects physical and mental health. Moreover, sexual assault is a crime for which victims may want to file a police report. In contrast to fragmented care systems, the SAC offers coordinated forensic, medical, and psychological expertise and services. This way, victims are ensured to have access to all services and do not need to seek help from different services separately. Chapter 2 assessed the victims that were served by the Dutch SACs between 2016 and 2020. In those years, over 7,000 victims were served by the SACs within 7 days after the assault. These victims were primarily female and one third was younger than 18. Most victims received medical and psychological care. About half of all victims had a forensic medical examination and a third filed a police report. Also, this chapter reflected on the current SACs strengths, as well as its challenges for further development. The main strengths were determined to be the 24/7 accessibility via one national telephone number and the close collaboration with the police department for sexual offences. However, the outreach towards non-female victims, as well as other minority groups, is in need of evaluation. Moreover, lack of funding and the decentralisation of funds threatens the consistency in quality of care across centres.

While most victims of sexual assault who contact the SACs are female, Chapter 2 found that between 8% and 12% of all served victims are male. It is crucial to gain understanding of the needs of these male victims, and whether the traditionally female-centred services are appropriate for them. In Chapter 3, we analysed the data of 34 male

victims who were referred to the SAC within seven days post-assault, and compared characteristics of respectively the victim and the assault, as well as their service use, to those of female victims. We found no differences between genders in age, use of mental health services at the time of the assault, or in any assault characteristics, such as the type of assault or the incidence of physical violence. This implies that barriers that male victims experience for contacting the SAC after sexual assault are not based on their age, mental health, or the severity of their assault. Furthermore, this study found that most victims who attended the SAC made use of the psychological and medical services, regardless of gender. Regarding forensic services, however, we found that male victims were less likely to get in contact with the police relative to female victims. Yet, for victims who were in contact with the police, we found no gender differences in police reporting or the prevalence of forensic medical examinations. These findings may point to differences in the pathway to help, where female victims may be more likely to contact the police before referring to the SAC, even when they ultimately decide not to make a formal police report. Male victims may also be more hesitant to contact the police in fear of being disbelieved or blamed. Chapter 3 concluded that for those attending the SAC, the psychological, medical, and forensic services are provided for and used by all victims equally, regardless of gender. Nonetheless, more research is needed to determine the motivations of male victims for contact with the police.

Efficacy of early intervention for psychopathology

The development of PTSD after sexual assault is highly prevalent (Steenkamp et al., 2012). Initiating psychological interventions within the first months after sexual assault may help to prevent the development of PTSD. Although such early interventions pose benefits, including possible prevention of comorbid psychopathology and associated costs, there are concerns about the safety of intervening before PTSD symptoms stabilize. Foremost, one early intervention known as psychological debriefing was determined ineffective and possibly harmful (Rose et al., 2002). Still, several studies have aimed to research the effect of interventions that are applied within three months after sexual assault on post-traumatic stress symptoms. In Chapter 4, these seven studies were systematically reviewed on methodological quality and safety and a meta-analysis was performed to determine the efficacy of early interventions for post-traumatic stress. We found a high risk of bias across the included studies and a lack of reported information about safety. Upon contact with the authors, we found no evidence to suggest that the early interventions were not safe. The meta-analyses found no difference in post-traumatic stress symptoms between those who received early intervention and those who received standard care at the first assessment after treatment, which was between 1 and 6 weeks post-assault. However, the early interventions were more efficacious than standard care at the last assessments that

took place between 2 and 12 months after the assault. In conclusion, early interventions for post-traumatic stress symptoms appear to be safe and may be effective after sexual assault, but higher quality research, specifically with lower risk of bias, is needed.

Chapter 5 described the study protocol of the Early EMDR study that aimed to examine the efficacy of early intervention using EMDR therapy for reducing post-traumatic stress symptoms in victims of rape. Although EMDR therapy is an effective and evidence-based treatment for PTSD (ISTSS, 2018), and research suggests its suitability for early intervention after a variety of trauma types (Jarero et al., 2011; Shapiro & Laub, 2015), its utilization as an early intervention in victims of rape was not previously studied. The Early EMDR study was designed as a randomized controlled trial (RCT), meaning that participants were randomly allocated to receive either two sessions of EMDR therapy or standard care in the first month after rape. Standard care entailed psychological services of the SAC, which follows a *watchful waiting* protocol of monitoring, psycho-education, and advice. The EMDR therapy entailed the application of the standard EMDR protocol with some alterations to account for the acute period after rape. Participants were recruited at four SAC locations and were assessed at baseline (within 2 weeks post-rape), after treatment, and at 8- and 12-weeks post-rape. It was hypothesized that participants who received the early intervention with EMDR therapy would demonstrate lower levels of post-traumatic stress symptoms at the post-treatment assessment and 8- and 12-weeks follow-ups than participants who received standard care. Additionally, participants who received the EMDR therapy were hypothesized to demonstrate significantly lower levels of sexual and psychological dysfunction at post-treatment and at 8- and 12-weeks follow-ups than those who received standard care. This study prioritized high quality research with low risk of bias, as well as the safety of participants during the trial.

The results of the study of Chapter 5 were described in Chapter 6. Fifty-seven victims of a recent rape consented to participation in the study, of whom 36 completed all assessments. No differences in victim or assault characteristics, nor psychopathology at baseline, were found between those who completed all assessments and those who did not. Although post-traumatic stress symptoms decreased significantly over time, there was no difference between conditions. Symptoms of anxiety and dissociation were significantly lower for those in the EMDR condition than those in the standard care condition at post-treatment and 8-weeks assessments, but this effect disappeared at the 12-week follow-up. Moreover, symptoms of general psychopathology, depression, pelvic floor overactivity, sexual dysfunction, guilt and shame did not differ between conditions at any assessment. These findings did not support the hypotheses that early intervention with EMDR therapy would be more effective than standard care

in reducing post-traumatic stress symptoms and other psychopathology after rape. However, it is of note that this RCT found large reductions in post-traumatic stress symptoms in both conditions across 12 weeks after rape, when compared to other studies on early interventions after sexual assault (Nixon et al., 2016), which may also imply unexpectedly high effectiveness of the standard care condition. This study concluded that watchful waiting is recommended for victims of rape.

Psychopathology after rape

While most victims experience symptoms of PTSD in the immediate aftermath of rape (Rothbaum et al., 1992; Tiihonen Möller et al., 2014), it is unknown why some victims develop PTSD over time, while others do not. Researching predictors of PTSD development is essential for identifying the victims who are most at risk. Therefore, Chapter 7 assessed potential predictors of the development of post-traumatic stress symptoms after rape in the participants of the RCT in Chapter 6. Several pre-existing, peritraumatic, and post-traumatic factors were assessed, including peritraumatic dissociation and persistent dissociation. We found that prior experiences of sexual assault, the relationship to the perpetrator (known or unknown), the experience of life threat during the rape, peritraumatic dissociation, and early symptoms of depression were not related to post-traumatic stress development across 12 weeks after the rape. However, early symptoms of post-traumatic stress and persistent dissociation predicted post-traumatic stress severity across 12 weeks, where more early symptoms of post-traumatic stress and more symptoms of persistent dissociation predicted more severe post-traumatic stress. Since almost all victims experience early symptoms of post-traumatic stress, this predictor may not be easily used to assess risk in clinical practice. Chapter 7 concluded that persistent dissociation may be particularly relevant for predicting the development of post-traumatic stress after rape.

Aside from PTSD, many female victims of sexual assault suffer from sexual dysfunction and pelvic floor overactivity. Cross-sectional research has found these symptoms to be related to the PTSD that has developed from the trauma, rather than the trauma itself (Bornefeld-Ettmann et al., 2017; Schurr et al., 2009). After sexual assault, almost all victims experience early symptoms of post-traumatic stress, but about half of them recover within three months following the assault. The question arises whether those who experience fewer symptoms of post-traumatic stress after three months, also recover in sexual dysfunction and pelvic floor overactivity. Chapter 8 analysed the relationship between early symptoms of post-traumatic stress, sexual dysfunction, and pelvic floor overactivity, and assessed the recovery of sexual dysfunction and pelvic floor overactivity in relation to post-traumatic stress. The results showed that at two weeks after rape, higher post-traumatic stress severity was related to more

symptoms of sexual dysfunction and pelvic floor overactivity. Additionally, lower post-traumatic stress severity at 12-weeks post-rape was related to more recovery in sexual dysfunction between 2 and 12 weeks. In contrast, pelvic floor overactivity reduced regardless of the severity of post-traumatic stress. From these findings, clinicians are advised to integrate the monitoring of pelvic floor overactivity, as well as psycho-education about these responses to stress, into the care for victims of recent rape.

Clinical implications

This dissertation aimed to expand the knowledge about mental health care for people who experience recent sexual assault. As such, this research has several implications for victim care.

Preventing PTSD after sexual assault

The findings in Chapter 4 suggest that early intervention for post-traumatic stress symptoms after sexual assault may be effective. The trial described in Chapters 5 and 6 elaborates on the existing knowledge by assessing EMDR therapy as an early intervention. This RCT found that EMDR therapy was not more effective than standard care, but that participants in both conditions reported a large reduction in post-traumatic stress symptoms over time. Moreover, early interventions were found to be safe in Chapter 4, as was early intervention with EMDR therapy in Chapter 6. As such, clinicians may choose to start intervention as soon as possible for victims of sexual assault.

A recent meta-analysis on early intervention following trauma found early intervention to be more effective than standard care in people presenting with stress symptoms immediately after the traumatic event (Roberts et al., 2019). However, as almost all victims of sexual assault experience these acute symptoms (Steenkamp et al., 2012), this selection criterion is inapt for determining which victims would benefit from early intervention. Moreover, excluding victims with lower levels of early post-traumatic stress symptoms underestimates the relevance of avoidance and dissociation, which may cause victims to underreport psychological symptoms. These victims may still develop PTSD. In fact, the study in Chapter 7 demonstrates the importance of persistent dissociation for the development of PTSD within three months after rape. Therefore, instead of assessing early symptoms of post-traumatic stress, the assessment of persisting symptoms of dissociation may be more relevant in clinical practice for determining whether to use early intervention for a victim of sexual assault.

Watchful Waiting as early intervention

The SACs provide watchful waiting, or the active monitoring of stress symptoms during the first month after sexual assault (Chapter 2). While watchful waiting is recommended during the first month after trauma (NICE, 2018), the efficacy of this service is still underreported. Surprisingly, Chapter 6 concluded that victims who receive early intervention with EMDR therapy experienced the same decrease in the level of post-traumatic stress symptoms during three months after rape, as victims who received watchful waiting by the SAC. As stated in Chapter 6, the similarity in effect may be ascribed to the effectiveness of both EMDR therapy and watchful waiting as early interventions. Although watchful waiting monitors symptoms of PTSD but does not actively treat them, there is some evidence to suggest that certain elements of the service may affect the development of post-traumatic stress symptoms. For example, during watchful waiting, case-managers try to reduce the harmful effects of victim blaming (Dworkin et al., 2019) through supportive counselling and psychoeducation. Moreover, victims are advised to seek out social support and to disclose the assault to people they trust. Of course, victims receive social support from the case-manager as well. Finally, victims are educated about normal trauma responses, in order to reduce feelings of shame and self-blame which are known to affect the development of PTSD (Ullman & Peter-Hagene, 2014; Kline et al., 2018). The effectiveness of watchful waiting as an early intervention to prevent the development of PTSD, is in need of further research. In particular, it is relevant to determine whether the decrease in post-traumatic stress symptoms in the study of Chapter 6 may be attributed to natural regression, or to the effectiveness of watchful waiting. Nonetheless, clinicians may be advised to apply watchful waiting in victims of a recent assault.

Research implications

While this dissertation adds to existing literature on psychological care for victims of sexual assault, more research beyond the scope of this dissertation is needed to further improve the existing services.

Who is not attending the SAC?

The SACs in the Netherlands are well-established, and Chapter 2 showed that the Dutch SACs are serving more and more victims each year: From 2016 through 2020, the SACs served 7,056 victims within the first week after the assault. However, 470,000 people over the age of 16 were estimated to be victimized by hands-on sexual assault between 2015 and 2020 (CBS, 2020). This discrepancy between the number of victims referred for acute multidisciplinary care, and the total number of victims, leads to the conclusion that most victims do not attend the SACs in the first week following sexual assault and therefore miss out on opportunities for high quality victim-centred care.

As such, Chapter 2 determined the outreach to all victims of sexual assault as the main weakness of the SACs. It is imperative to the effectiveness of the SACs to determine which victims are not attending, and why.

Firstly, the victims who attend the SACs are mostly female. Chapter 3 concluded that while the psychological and medical services are used in equal ratios by female and male victims, the attendance of male victims remains low. Additionally, it is important to note that the study in Chapter 3 included no victims of gender identities other than cis-gender male and female, as these victims had not been seen at the SAC or their gender identity had not been accurately registered. Yet, research has shown that transgender and non-binary people are more likely to experience sexual assault than cis-gendered people (Stotzer, 2009), but refrain from seeking help out of fear of discrimination and further victimization (Hereth, 2021). In fact, transgender victims in the United States were found to receive unequal treatment following sexual assault, even in specialized rape crisis centres and domestic violence programs (Seelman, 2015). The outreach of non-female victims of sexual assault and the treatment of gender minorities by the SAC, as well the appropriateness of the SAC care for people with these genders, is in need of assessment.

Secondly, in addition to gender minorities, a recent systematic review highlighted victims of cultural minorities, victims with disabilities and severe mental health problems, and elderly victims as being particularly underserved by sexual assault services (Bach et al., 2021). The researchers point out that these victims may need additional services that accommodate their specific needs, such as a translator, mobility aids, or cooperation with residential care homes. Moreover, it is important that the services are inclusive and sensitive to the victim's culture and abilities. Whether the Dutch SACs adequately reaches and serves these victims groups is unknown.

In sum, several groups of victims remain underserved by the SACs in the acute phase after sexual assault. Research is needed to determine these victims' needs, motivations for seeking help, and whether the existing system is appropriate for them.

The effectiveness of coordinated care

The multidisciplinary approach was developed as a response to the problems that were observed in fragmented care systems. A small body of research has examined whether the multidisciplinary approach has eliminated these problems. In preliminary research, victim advocates reported the added value of multidisciplinary care in this area (Campbell & Ahrens, 1998), stating that the approach improved communication between victims and responders. Moreover, a study comparing police cases before

and after the implementation of the multidisciplinary approach, found that victims were offered more services when the medical, forensic and psychological services were coordinated by a case manager (Nugent-Borakove, 2006). Moreover, the prosecution of sexual assault cases where the victim had received care from a SAC were more likely to reach a conviction or guilty plea than cases where the victim had not attended a SAC (Campbell et al., 2012).

Nonetheless, it is of note that these studies were conducted in the United States and therefore may not be generalizable to the Netherlands, especially given the differences in legal and health care systems. Moreover, these studies were conducted over a decade ago, and attitudes towards sexual assault victimization have changed significantly . It is imperative to study the effect of SAC care on service use and legal prosecution in the Netherlands. Additionally, the impact of the SACs' coordinated services on physical and mental health, in comparison to fragmented care, should be studied to determine the effectiveness of the SACs.

Future directions for victim care

The development of the field of victim care extends beyond the scope of this dissertation. The future direction of this field should aim to reach more victims and provide wide ranging care.

Anonymous care after sexual assault

The first step to seeking professional help after sexual assault is talking about the assault to a loved one or care provider (Campbell et al., 2015). However, most victims struggle with this first disclosure of sexual assault, because they fear negative consequences and stigmatization, and experience feelings of shame and self-blame (Ullman et al., 2010). In fact, about 60% of victims wait more than a month before first disclosing the assault to anyone (Broman-Fulks et al., 2007). Even when victims disclose shortly after the assault, they are likely to stop further disclosure and help-seeking if they receive negative, victim-blaming reactions (Dworkin & Allen, 2018). As a consequence of these barriers and reactions to disclosure, many victims of sexual assault do not find their way to emergency care services, including the SAC.

Because the first disclosure and the reaction to that disclosure are essential for seeking help after sexual assault, victims should have an opportunity to safely disclose their experience. Free online mental health services may provide this opportunity by providing several benefits. First, online services are easily accessible to most people. Second, online services can be used anonymously, which may reduce the feelings of shame that prevent many victims for disclosing. Third, the contact with a mental

health professional can diminish the chances of a victim-blaming response to the first disclosure. Moreover, these professionals can provide information about stress responses, available medical and psychological care, and police reporting.

Preliminary research suggests that online mental health services reach a large number of young people who struggle with mental health issues and encourage them to seek offline services (Collin et al., 2011). In 2021, the anonymous chat service of the Dutch SACs had 3500 unique visitors (Centrum Seksueel Geweld, 2022). Still, this form of counselling is relatively new and more research is needed to determine the impact of these services on the mental health of its users, and whether these services facilitate the pathway to emergency care services such as the SAC.

Prevention

Prevention is an essential element of the policies against sexual violence. The prevention of sexual assault should have a broad scope and address several levels of prevention. First, adequate education and information about sexual violence is needed from a young age. Children and adolescents should be educated about healthy sexual behaviour, sexual boundaries, and consent. This information may benefit healthy sexual development when it is an integral and systematic aspect of sexual education. A meta-analysis of 24 studies found that school-based preventative programs for sexual abuse can improve children's protective behaviours, knowledge about safe behaviour, and may facilitate disclosures of prior or ongoing sexual abuse (Walsh et al., 2015). However, the authors of this meta-analysis determined that more research is needed to develop evidence-based educational programs.

Second, the repeated perpetration of sexual assault can be prevented by correcting the sexual behaviour of perpetrators. Since many perpetrators are victims of sexual assault as well (Semiatin et al., 2016), assessment and treatment of PTSD can aid their recovery. This prevention may extend to people who have not yet committed or been convicted for sexual assault, but still need help with sexually deviant behaviours. In sum, a well-rounded approach to prevention of sexual assault is needed.

CONCLUSION

The main question of this dissertation was how mental health care for victims of recent sexual assault can be improved. This question has several answers. Looking at the existing services, the sexual assault centres may be improved by increasing outreach to victims from all identities and demographics. A second answer is that early intervention with EMDR therapy after sexual assault is safe and effective, as is the standard care (watchful waiting) of the sexual assault centres. Therefore, expansion of this standard care may be more valuable than the implementation of early interventions. Lastly, mental health care after recent sexual assault may be improved by monitoring symptoms of persistent dissociation to determine the risk of developing PTSD, as well as psychosexual symptoms including pelvic floor overactivity.

In sum, this dissertation has shown that the sexual assault centres provide valuable mental health care for victims of recent sexual assault. In order to guide all victims of sexual assault through the impactful acute period, the sexual assault centres should evaluate the working elements of their services and aim to expand their outreach.

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APPENDICES

NEDERLANDSE SAMENVATTING

De meeste mensen maken in hun leven traumatische gebeurtenissen mee (Kessler et al., 2017). Seksueel geweld is een trauma dat veel voorkomt. Seksueel geweld wordt gedefinieerd als seksuele handelingen zonder toestemming en dus onder dwang. Deze dwang kan fysiek zijn, maar er kan ook sprake zijn van manipulatie, intimidatie, of het misbruiken van iemands onvermogen om te weigeren. Alle vormen van seksueel geweld zijn een schending van de vrijheid, veiligheid, en zelfbeschikking van het slachtoffer. Een populatieonderzoek in Nederland liet zien dat 19% van de vrouwen en 4% van de mannen seksueel geweld had meegemaakt (De Graaf & Wijsen, 2017).

Het meemaken van seksueel geweld heeft gevolgen voor de mentale gezondheid van het slachtoffer: zij hebben een verhoogd risico op het ontwikkelen van verschillende psychische stoornissen, zoals depressie, middelenmisbruik, seksuele problemen en post-traumatische stress stoornis (PTSS; Tiihonen Möller et al., 2014). Uit onderzoek blijkt dat 30 tot 50% van de slachtoffers van seksueel geweld PTSS ontwikkelen. Deze prevalentie is aanzienlijk hoger dan in slachtoffers van andere soorten trauma (Kessler et al., 2017; Knipscheer et al., 2020). PTSS wordt gekenmerkt door vier symptoomgroepen. Ten eerste ervaren patiënten intrusieve en onvrijwillige herinneringen, dromen en flashbacks, almede intense lichamelijke of psychologische reacties op triggers. Ten tweede is er sprake van vermijding van dergelijke triggers, zoals mensen, plaatsen, gevoelens en gedachten. Ten derde hebben patiënten last van negatieve stemmingen en overtuigingen, en ervaren zij onvermogen om positieve emoties te ervaren. Als laatste is er sprake van verhoogde reactiviteit en alertheid.

Naast deze symptomen, verhoogt PTSS de kans op andere psychische stoornissen, zoals depressie, middelenmisbruik en suïcidaliteit (Galatzer-Levy et al., 2013). Ook staat PTSS in verband met lichamelijke problemen, zoals chronische pijn, hart- en vaatziekten, en seksuele dysfunctie (Gupta, 2013; Yehuda et al., 2015). Ondanks deze comorbide problemen, is er weinig bekend over de beschermende en risicofactoren voor het ontwikkelen van PTSS.

Gezien deze risico's is medische en psychologische zorg, alsmede het verzamelen van bewijs voor aangifte, voor slachtoffers van seksueel geweld cruciaal. In Nederland is deze zorg georganiseerd door de 16 locaties van het Centrum Seksueel Geweld (CSG). Het CSG biedt multidisciplinaire zorg, bestaande uit medische zorg voor het behandelen en voorkomen van fysieke schade, forensische hulp om bewijs te verzamelen middels forensisch medisch onderzoek, en psychologische zorg om de ontwikkeling van psychische problemen te monitoren.

Voor slachtoffers van seksueel geweld die PTSS ontwikkelen, wijzen richtlijnen op twee behandelingen: cognitieve gedragstherapie en EMDR-therapie (ISTSS, 2018). Beide behandelingen zijn effectief in het behandelen van PTSS, maar het is niet bekend of deze behandelingen vroegtijdig kunnen worden aangeboden om PTSS, en comorbide problematiek, te voorkomen.

Het doel van dit proefschrift is om de psychische zorg voor slachtoffers van seksueel geweld te verbeteren door de kennis over psychische problemen te vergroten. Het proefschrift bestaat uit drie delen:

1. Een evaluatie van de psychische zorg die het CSG biedt, en de mate waarin slachtoffers hier gebruik van maken
2. Onderzoek naar de effectiviteit van EMDR-therapie als vroegtijdige interventie om het risico op PTSS en andere psychische problemen te verlagen
3. Onderzoek naar de ontwikkeling van psychische problemen na een recente verkrachting

SAMENVATTING VAN BEVINDINGEN

Deel 1 - Evaluatie van CSG

Hoofdstuk 2 beschrijft de ontwikkeling van de 16 Centrum Seksueel Geweld locaties en de diensten die zij bieden voor slachtoffers van seksueel geweld. De multidisciplinaire aanpak van het CSG is ontwikkeld aan de hand voor soortgelijke centra in de Verenigde Staten, Scandinavië, en het Verenigd Koninkrijk. Seksueel geweld is een multidisciplinair probleem, aangezien het zowel medisch als psychische risico's kent, maar ook een misdaad waarvoor slachtoffers aangifte kunnen doen. In tegenstelling tot gefragmenteerde systemen, waar slachtoffers hulp moeten zoeken bij verschillende instanties, biedt het CSG integrale, multidisciplinaire zorg. Hoofdstuk 2 beschrijft tevens de slachtoffers die tussen 2016 en 2020 gebruik maakten van het CSG. In deze jaren maakten ruim 7.000 slachtoffers gebruik van de multidisciplinaire zorg binnen 7 dagen na het seksueel geweld. Deze slachtoffers waren voornamelijk vrouwen en één derde was jonger dan 18 jaar. De meeste slachtoffers ontvingen medische en psychische zorg. Ongeveer de helft van de slachtoffer kreeg een forensisch medisch onderzoek en één op de drie besloot aangifte te doen. Als laatste werd in Hoofdstuk 2 gekeken naar de krachten, zwaktes, mogelijkheid en bedreigingen van het landelijk netwerk CSG. De voornaamste kracht was de 24/7 bereikbaarheid en nauwe samenwerking met de zedenpolitie. Echter is het bereik van niet-vrouwelijke slachtoffers en slachtoffers uit

minderheidsgroepen beperkt. Daarnaast wordt de kwaliteit van de zorg bedreigd door beperkte en gedecentraliseerde financiering.

Hoewel de meeste slachtoffers bij het CSG vrouwen zijn, laat Hoofdstuk 2 ook zien dat 8 tot 12% van de slachtoffers die contact opnemen met het CSG man zijn. Het is daarom van belang om de zorgbehoeftes van deze mannelijke slachtoffers te onderzoeken, alsmede of de zorg van het CSG, welke zich van oorsprong richt op vrouwen, aansluit bij deze behoeften. In Hoofdstuk 3 werd de acute zorg voor 34 mannelijke slachtoffers bij het CSG geanalyseerd, en werden het zorggebruik en kenmerken van het slachtoffer en het seksueel geweld vergeleken met die van vrouwelijke slachtoffers. We vonden geen verschillen tussen mannen en vrouwen in leeftijd, de mate waarin slachtoffers gebruik maakten van GGZ ten tijde van het seksueel geweld, of in de kenmerken van het seksueel geweld. Deze bevindingen suggereren dat de drempels die mannen ervaren om hulp te zoeken bij het CSG niet veroorzaakt worden door hun leeftijd, mentale gezondheid, of de ernst van het seksueel geweld. Daarnaast bleken mannen en vrouwen in dezelfde mate gebruik te maken van de medische, psychologische en forensische diensten van het CSG. Echter bleek dat mannen minder vaak contact hadden met de politie dan vrouwen. Desondanks deden mannen die wel contact hadden met de politie in dezelfde mate aangifte als vrouwen. Dit wijst uit dat er mogelijk verschillen zijn in de weg naar hulpverlening, waarbij vrouwen eerder contact opnemen met de politie na seksueel geweld, welke hun doorverwijst naar het CSG, terwijl mannen zonder contact met de politie naar het CSG gaan. Het is tevens mogelijk dat mannen terughoudend zijn om contact op te nemen met de politie, uit angst om niet geloofd te worden of zelf beschuldigd te worden. Hoofstuk 3 concludeerde dat slachtoffer die hulp zoeken bij het CSG gelijke zorg krijgen, ongeacht hun geslacht. Desondanks is er meer onderzoek nodig naar de motivatie van mannelijke slachtoffers voor contact met de politie.

Deel 2 – Vroegtijdige interventie voor psychopathologie

De prevalentie van PTSS na seksueel geweld is hoog (Steenkamp et al., 2012). Psychologische hulp tijdens de eerste maanden na seksueel geweld kan mogelijk bijdragen aan het voorkomen van de ontwikkeling van PTSS en comorbide problemen. Toch zijn er zorgen of dergelijke interventies veilig zijn, aangezien de PTSS symptomen nog in ontwikkeling zijn en zich nog niet gestabiliseerd hebben. Zo bleek een vroegtijdige interventie voor PTSS, bekend als 'psychological debriefing' ineffectief of zelfs schadelijk te zijn (Rose et al., 2002). Desondanks hebben verschillende studies het effect van andere vroegtijdige interventies na seksueel geweld onderzocht. In Hoofdstuk 4 werden deze zeven studies systematisch onderzocht op methodologische kwaliteit en veiligheid. Ook werd een meta-analyse naar de effectiviteit van deze interventies uitgevoerd. Uit dit onderzoek bleek dat de kwaliteit van deze studies veelal laag was,

en dat er weinig werd gerapporteerd over veiligheid. Na contact met de auteurs van deze studies, werd geconcludeerd dat er geen bewijs was voor de onveiligheid van deze vroegtijdige interventies. De meta-analyse toonde direct na afronding van de interventie geen verschil in de ernst van post-traumatische stress tussen slachtoffers die de interventies kregen en slachtoffers in de controle-condities. Echter waren de interventies wel effectiever dan de controle-condities op het laatste meetmoment, zijnde 2 tot 12 maanden na het seksueel geweld. Concluderend lijken vroegtijdige interventies voor post-traumatische stress na seksueel geweld veilig en effectief te zijn, maar is er meer onderzoek van hogere methodologische kwaliteit nodig.

Hoofstuk 5 beschrijft het onderzoeksprotocol van het Early EMDR onderzoek naar de effectiviteit van vroegtijdige interventie met EMDR-therapie in het verminderen van symptomen van post-traumatische stress na verkrachting. EMDR-therapie is een effectieve behandeling voor PTSS (ISTSS, 2018) en onderzoek wijst op de mogelijke toepasbaarheid van EMDR-therapie als vroegtijdige interventie (Jarero et al., 2011; Shapiro & Laub, 2015). Echter is EMDR-therapie in deze toepassing nog niet onderzocht bij slachtoffers van verkrachting. Het Early EMDR onderzoek was ontworpen als gerandomiseerde gecontroleerde studie (RCT), hetgeen inhoudt dat deelnemers willekeurig toegewezen worden aan ofwel twee sessie EMDR-therapie, ofwel de standaardzorg van het CSG. Beide condities vonden plaats gedurende de eerste maand na verkrachting. Voor de EMDR-therapie werd het standaard EMDR-protocol gevolgd, welke op enkele punten aangepast werd om rekening te houden met de acute periode na verkrachting. De standaardzorg van het CSG is *watchful waiting*. Dit protocol bestaat uit het monitoren van stressreacties, psycho-educatie en advies. Deelnemers werden geworven bij vier CSG locaties. Meetmomenten vonden plaats binnen 2 weken na de verkrachting (baseline), één week na de behandeling, en 8 en 12 weken na de verkrachting. De hypothese van dit onderzoek was dat deelnemers die EMDR-therapie kregen minder post-traumatische stress en andere psychologische klachten zouden ervaren na de behandeling en na 8 en 12 weken, dan deelnemers die standaardzorg kregen. Het onderzoek legde nadruk op hoge methodologische kwaliteit en veiligheid voor deelnemers.

De resultaten van het Early EMDR onderzoek worden beschreven in Hoofdstuk 6. In totaal namen 57 slachtoffers van een recente verkrachting deel aan het onderzoek, waarvan 36 deelnamen aan alle meetmomenten. We vonden geen verschillen in kenmerken van de slachtoffers of het seksueel geweld, noch in de ernst van symptomen op baseline, tussen deelnemers die aan alle meetmomenten deelnamen en deelnemers die hun deelname voortijdig stopten. Post-traumatische stress verminderde gedurende de 12 weken, zonder verschillen tussen de condities. Symptomen van

angst en dissociatie waren na de behandeling en na 8 weken lager voor deelnemers in de EMDR-conditie dan deelnemers in de standaardzorg-conditie, maar dit effect verdween na 12 weken. Er werd ook geen verschil tussen condities gevonden in symptomen van algemene psychopathologie, depressie, bekkenbodemoveractiviteit, seksuele problemen, schaamte en schuld. Met deze resultaten kon de hypothese dat vroegtijdige interventie met EMDR-therapie effectiever is dan standaard zorg niet worden onderbouwd. Desondanks is het opvallend dat in dit onderzoek grote afnames in post-traumatische stress symptomen werden gemeten, zeker in vergelijking met eerder onderzoek naar vroegtijdige interventies na verkrachting (Nixon et al., 2016). Mogelijk wijst dit op onverwacht hoge effectiviteit van de standaard zorg. Concluderend beveelt dit onderzoek *watchful waiting* aan bij slachtoffer van een recente verkrachting.

Deel 3 – Psychopathologie na verkrachting

Hoewel vrijwel alle slachtoffers van seksueel geweld symptomen van PTSS ervaren direct na de verkrachting (Rothbaum et al., 1992; Tiihonen Möller et al., 2014), is er nog weinig kennis over waarom dit bij sommige slachtoffers ontwikkelt tot PTSS, maar in andere niet. Hoofdstuk 7 onderzocht mogelijke voorspellers voor de ontwikkeling van post-traumatische stress symptomen in de deelnemers van de RCT van Hoofdstuk 6. Verschillende factoren werden onderzocht, welke betrekking hebben op de periode voor het trauma, gedurende het trauma, of na het trauma. Eerdere ervaringen met seksueel geweld bleken de ontwikkeling van post-traumatische stress na verkrachting niet te voorspellen. Eveneens bleek de relatie met de dader (bekende of onbekende), het gevoel van levensgevaar gedurende het trauma, dissociatie gedurende en direct na het trauma, en vroege symptomen van depressie, niet gerelateerd te zijn aan de ontwikkeling van post-traumatische stress symptomen. Daarentegen waren vroegtijdige symptomen van post-traumatische stress en symptomen van dissociatie die voortduren in de weken na seksueel geweld, wel voorspellers voor de ontwikkeling van post-traumatische stress symptomen gedurende 12 weken na verkrachting. Desondanks zijn vroege symptomen van post-traumatische stress in de klinische praktijk geen waardevolle indicator voor het risico op PTSS, aangezien bijna alle slachtoffers deze symptomen in hoge mate ervaren. Hoofdstuk 7 concludeerde dat symptomen van dissociatie die aanhouden in de periode na verkrachting een belangrijke rol lijkt te spelen in de ontwikkeling van post-traumatische stress symptomen.

Naast PTSS ervaren veel vrouwelijke slachtoffers van seksueel geweld symptomen van seksuele dysfunctie en bekkenbodemoveractiviteit. Uit eerder onderzoek is gebleken dat deze symptomen in verband staan met de PTSS die na een traumatische gebeurtenis ontwikkeld (Bornefeld-Ettmann et al., 2017; Schurr et al., 2009). Kort na seksueel geweld ervaren bijna alle slachtoffers post-traumatische stresssymptomen.

Bij ongeveer de helft van deze slachtoffers verdwijnen deze symptomen vanzelf. Het is echter onbekend of, in het geval dat slachtoffers herstellen van deze vroege post-traumatische stresssymptomen, de symptomen van seksuele dysfunctie en bekkenbodemoveractiviteit ook afnemen. Hoofdstuk 8 onderzocht het verband tussen vroege symptomen van post-traumatische stress, seksuele dysfunctie en bekkenbodemoveractiviteit na seksueel geweld, almede de relatie tussen post-traumatische stresssymptomen na 12 weken en het herstel in seksuele dysfunctie en bekkenbodemoveractiviteit. Het onderzoek wees uit dat op twee weken na een verkrachting, hogere post-traumatische stress symptomen in verband staan met meer seksuele dysfunctie en bekkenbodemoveractiviteit. Ook bleek minder ernstige post-traumatische stress na 12 weken in verband te staan met een verbetering in seksuele dysfunctie. Daarentegen was het herstel in bekkenbodemoveractiviteit niet gerelateerd aan de ernst van post-traumatische stress. Op basis van deze resultaten werd geconcludeerd dat clinici de bekkenbodemactiviteit na seksueel geweld dienen te monitoren, en psycho-educatie dienen te geven over deze fysieke reacties op stress kort na seksueel geweld.

KLINISCHE IMPLICATIES

Dit proefschrift heeft getracht de kennis over psychische hulpverlening voor mensen die recent seksueel geweld meemaakten te vergroten. Daarmee heeft dit onderzoek implicaties voor de zorg voor slachtoffers.

PTSS voorkomen na seksueel geweld

De bevindingen van Hoofdstuk 4 suggereren dat vroegtijdige interventie voor post-traumatisch stress symptomen na seksueel geweld effectief kan zijn. Deze kennis wordt verder uitgebreid met de RCT van Hoofdstuk 6, welke de toepasbaarheid van EMDR-therapie als vroegtijdige interventie onderzoekt. Hier werd gevonden dat EMDR-therapie even effectief was als standaard zorg en dat post-traumatische stresssymptomen in beide condities afnamen over tijd. Verder concludeerde Hoofdstuk 4 dat vroegtijdige interventies veilig zijn. Dit bleek ook het geval te zijn voor EMDR-therapie. Gegeven deze feiten kunnen professionals in de klinische praktijk ervoor kiezen om zo snel mogelijk een interventie te starten bij slachtoffers van seksueel geweld.

Een recente meta-analyse naar vroegtijdige interventies na trauma concludeerde dat deze interventies effectiever zijn dan standaard zorg in mensen die direct na het trauma stresssymptomen ervaren (Roberts et al., 2019). Echter kan deze bevinding in de klinische praktijk niet gebruik worden om te bepalen welke slachtoffers van seksueel

geweld baat zullen hebben bij vroegtijdige interventie, aangezien alle slachtoffers deze acute symptomen ervaren (Steenkamp et al., 2012). Bovendien moet rekening worden gehouden met vermijding en dissociatie, waardoor slachtoffers die minder acute stresssymptomen ervaren niet uitgesloten dienen te worden voor vroegtijdige behandeling. Daarbij laat het onderzoek van Hoofdstuk 7 het belang van dissociatie in ontwikkeling van PTSS zien. Hiermee kan het monitoren van aanhoudende symptomen van dissociatie tevens relevant zijn om te bepalen of vroegtijdige interventie toegepast moet worden op een slachtoffer van seksueel geweld.

Watchful Waiting als vroegtijdige interventie

Het CSG biedt slachtoffers watchful waiting aan, oftewel het monitoren van stresssymptomen in de eerste maand na seksueel geweld (Hoofdstuk 2). Echter is er nog weinig bekend over de effectiviteit van deze zorg. Uit Hoofdstuk 6 bleek dat slachtoffers die watchful waiting kregen dezelfde afname in post-traumatische stresssymptomen ervaarden als slachtoffers die EMDR-therapie kregen. Deze bevinding kan mogelijk worden toegeschreven aan de effectiviteit van zowel EMDR-therapie als watchful waiting. Uit eerder onderzoek kan worden gesuggereerd dat bepaalde elementen van watchful waiting de ontwikkeling van PTSS beïnvloeden. Zo proberen casemanagers de schadelijke effecten van victim blaming te voorkomen door positieve ondersteuning en psycho-educatie (Dworkin et al., 2019). Ook krijgen slachtoffers advies over sociale steun en wordt getracht hun gevoelens van schaamte en zelfverwijt te verminderen door psycho-educatie over stressreacties. Desondanks moet verder worden onderzocht in welke mate watchful waiting de ontwikkeling van PTSS voorkomt. Daarbij is het met name relevant om te bepalen of de afname van post-traumatische stresssymptomen zoals gevonden in Hoofdstuk 6 toe te wijzen zijn aan natuurlijk herstel of de effectiviteit van watchful waiting. Desondanks worden professionals geadviseerd om watchful waiting toe te passen bij slachtoffers van een recente verkrachting.

IMPLICATIES VOOR ONDERZOEK

Ondanks de bijdrage van dit proefschrift aan de bestaande kennis van de psychologische zorg voor slachtoffers van seksueel geweld, is er meer onderzoek nodig om de bestaande zorg verder te verbeteren.

Welke slachtoffers komen niet naar het CSG

Tussen 2016 en 2020 bood het CSG zorg aan 7056 slachtoffers die minder dan een week geleden seksueel geweld hebben meegemaakt. Toch wordt geschat dat er tussen 2015 en 2020 470000 volwassenen het slachtoffer werden van fysiek seksueel geweld

(CBS, 2020). Het verschil tussen deze schatting en het aantal slachtoffers bij het CSG wijst uit dat de meeste slachtoffers niet binnen een week hulp zoeken en daarmee gespecialiseerde zorg mislopen. Uit Hoofdstuk 2 bleek dan ook dat het bereiken van slachtoffers de voornaamste zwakte van het CSG is. Maar het is essentieel voor de werkzaamheid van het CSG om te bepalen welke slachtoffers geen hulp zoeken.

Ten eerste zijn de slachtoffers bij het CSG voornamelijk vrouwen. Hoofdstuk 3 concludeerde dat de psychische en medische zorg van het CSG in gelijke mate gebruikt wordt door mannelijke en vrouwelijke slachtoffers. Desondanks blijft het bereiken van mannelijke slachtoffers ver achter op vrouwelijke slachtoffers. Daarbij is het belangrijk om te benoemen dat het onderzoek in Hoofstuk 3 geen slachtoffers van andere genderidentiteiten bevatten, omdat deze slachtoffers niet gezien waren bij het CSG ofwel hun genderidentiteit onjuist geregistreerd was. Toch laat onderzoek zien dat transgender en non-binaire mensen een groter risico lopen om seksueel geweld mee te maken dan cis-gender mensen (Stotzer, 2009), maar dat zij terughoudend zijn om hulp te zoeken uit angst voor discriminatie en verdere traumatisering (Hereth, 2021). Het bereiken van niet vrouwelijke slachtoffers van seksueel geweld en de zorg voor genderminderheden bij het CSG, alsmede de mate waarin de zorg van het CSG toepasbaar is op deze mensen, moet verder onderzocht worden.

Ten tweede laat recent onderzoek zien dat ook slachtoffers van culturele minderheden, slachtoffers met beperkingen en ernstige mentale problemen, en oudere slachtoffers in beperkte mate geholpen worden door specialistische hulpverlening voor seksueel geweld (Bach et al., 2021). De onderzoekers benadrukken dat deze slachtoffers mogelijk extra hulpbehoeften hebben, evenals inclusiviteit en sensitiviteit. Of hier ook sprake van is bij het Nederlandse CSG moet nog onderzocht worden.

Samengevat lopen verschillende groepen slachtoffers van seksueel geweld de specialistische zorg van het CSG mis. Er moet meer onderzoek gedaan worden naar de behoeftes en het hulpzoekgedrag van deze slachtoffers, en of het bestaande systeem voor hen geschikt is.

De effectiviteit van multidisciplinaire zorg

De multidisciplinaire aanpak van seksueel geweld is ontwikkeld in reactie op het versnipperde zorgsysteem. Enkele onderzoeken hebben onderzocht in hoeverre deze aanpak de problemen van het versnipperde systeem oplost. Zo bleek uit een onderzoek dat deze aanpak de communicatie tussen slachtoffers en hulpverleners verbeterde (Campbell & Ahrens, 1998). Uit een ander onderzoek bleek dat slachtoffers in de multidisciplinaire aanpak meer medische, forensische en psychologische diensten

aangeboden kregen (Nugent-Borakove, 2006). Bovendien leek de multidisciplinaire aanpak in de rechtbank voor meer veroordelingen te zorgen (Campbell et al., 2012). Echter is het belangrijk te benoemen dat al deze onderzoeken in de Verenigde Staten zijn uitgevoerd. Hierdoor zijn de bevindingen niet te generaliseren naar Nederland, vooral gezien de verschillen in de rechtspraak en medische hulpverlening. Bovendien zijn deze studies ruim 10 jaar geleden gepubliceerd, en is er in de laatste 10 jaar veel veranderd in het maatschappelijke debat over seksueel geweld. Hierom is het belangrijk om het effect van het CSG op zorggebruik van slachtoffers en vervolging van daders te onderzoeken.

TOEKOMSTBEELD VAN SLACHTOFFERZORG

Het toekomstbeeld van de zorg van slachtoffers van seksueel geweld vraagt om verbreding en verdieping.

Anonieme zorg na seksueel geweld

De eerste stap in de weg naar hulpverlening na seksueel geweld is om met iemand over de ervaring te praten (Campbell et al., 2015). Toch ervaren de meeste slachtoffers moeite met deze onthulling, uit angst voor de negatieve gevolgen en stigmatisering, en vanwege gevoelen van schuld en schaamte (Ullman et al., 2010). Deze drempels voor onthulling zorgen ervoor dat veel slachtoffers acute hulpverlening, zoals het CSG, mislopen.

Gezien het belang van deze eerste onthulling en de reactie hierop zou het voor slachtoffers mogelijk moeten zijn om hun ervaring op een veilige plek te onthullen. Online hulpverlening kan deze plek bieden en heeft verschillende voordelen. Ten eerste zijn online diensten toegankelijk voor de meeste mensen. Ten tweede kan online hulpverlening anoniem gebruikt worden, wat gevoelens van schaamte kan verminderen. Ten derde kan, wanneer er contact is met een hulpverlener, de kans op victim blaming verlaagd worden. Als laatste kunnen deze hulpverleners informatie bieden over stressreacties, hulpverlening, en aangifte.

Onderzoek wijst uit dat online hulpverlening in staat is om een groot aantal jonge mensen met mentale gezondheidszorgen te bereiken en hen te motiveren voor offline hulpverlening (Collin et al., 2011). Zo ontving de online chat van het CSG in 2021 3500 unieke bezoekers (Centrum Seksueel Geweld, 2022). Desondanks is deze vorm van hulpverlening relatief nieuw en is er meer onderzoek nodig om het effect van deze dienst te bepalen.

Preventie

Preventie is een essentieel onderdeel van de aanpak tegen seksueel geweld. Preventie kan op verschillende manieren worden toegepast. Ten eerste is er vanaf jonge leeftijd behoefte aan passend onderwijs en informatie over seksueel geweld. Kinderen en adolescenten zouden geïnformeerd moeten worden over gezond seksueel gedrag, seksuele grenzen, en consent. Deze informatie kan een gezonde seksuele ontwikkeling bevorderen wanneer dit een integraal onderdeel van seksuele voorlichting is. Zo blijkt uit een meta-analyse van 24 studies dat preventie van seksueel geweld middels onderwijs op school kinderen kan leren zichzelf te beschermen en de kans op onthulling van eerder of aanhoudend seksueel misbruik kan vergroten (Walsh et al., 2015). Desondanks is er meer onderzoek nodig om effectieve onderwijsprogramma's te ontwikkelen.

Ten tweede kan herhaald daderschap worden voorkomen door seksueel gedrag van daders te corrigeren. Gezien het feit dat veel daders zelf seksueel geweld hebben meegemaakt (Semiatin et al., 2016), maakt PTSS behandeling onderdeel uit van dit herstel. Deze preventie kan worden uitgebreid naar mensen die nog geen seksueel geweld hebben gepleegd, maar wel hulp nodig hebben met seksueel grensoverschrijdend gedrag. Kortom, een brede aanpak is nodig om seksueel geweld te voorkomen.

CONCLUSIE

Dit proefschrift had als doel te onderzoeken hoe de zorg voor slachtoffers van seksueel geweld verbeterd kan worden. De bestaande zorg van het CSG kan verbeterd worden door het bereik naar alle slachtoffers te vergroten. Verder blijkt vroegtijdige interventie met EMDR-therapie, alsmede de standaard zorg van het CSG, effectief en veilig te zijn. Hiermee lijkt uitbreiding van de standaard zorg meer toegevoegde waarde te hebben dan de implementatie van vroegtijdige interventies. Als laatste kan de zorg voor slachtoffers van seksueel geweld verbeterd worden door symptomen van aanhoudende dissociatie en psychoseksuele symptomen te monitoren in de acute periode na seksueel geweld.

Samengevat toont dit proefschrift aan dat specialistische zorg voor slachtoffers van seksueel geweld een waardevolle bijdrage levert aan de psychische gezondheid van slachtoffers. Om zo veel mogelijk slachtoffers door de belangrijke acute periode heen te helpen is het essentieel dat het CSG de werkzame elementen van de multidisciplinaire hulpverlening evalueert en het bereik probeert te vergroten.

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DANKWOORD

Graag wil ik iedereen bedanken die het onderzoek en mijn promotietraject heeft ondersteund.

Allereerst wil ik mijn dankbaarheid uitspreken voor de deelnemers van het Early EMDR onderzoek. De bijdrage die zij hebben geleverd aan de wetenschap zorgt ervoor dat we steeds betere zorg kunnen leveren aan slachtoffers van seksueel geweld. Maar bovenal ben ik dankbaar dat zij hun kwetsbaarheid en veerkracht met ons deelden tijdens een moeilijke periode in hun leven. Veel van hen vertelden mij dat ze deelnamen aan het onderzoek omdat ze hoopten daarmee toekomstige slachtoffers te kunnen helpen. Ik heb bewondering voor hoe zij een stukje van zichzelf durfden te geven om een onbekende te kunnen helpen. Bedankt voor jullie kracht en moed.

Mijn promotieteam Marcel, Ad, Rafaële en Iva. Ik kan nog steeds niet geloven dat jullie dit onderzoek, waar jullie al lange tijd hard aan werkten, zo kort voor de start aan mij toevertrouwden. Marcel, je hebt vanaf het moment dat ik je kantoor binnenstapte voor het sollicitatiegesprek in mij geloofd. Hoewel we elkaar niet veel spraken, wist ik dat je altijd achter me stond. Dankjewel, ook voor de extra tijd die je me schonk om het onderzoek goed af te ronden. Ad, wat heb ik veel van jou mogen leren. Je kritische blik tijdens het schrijven en je steun tijdens het peer review proces heeft me een sterkere schrijver gemaakt. Rafaële, ik kijk enorm op naar jou als onderzoeker. Bedankt dat je altijd tijd maakte voor mijn vragen over onderzoeksmethodiek en statistiek, maar ook om even te vragen hoe het met me ging. Lieve Iva, ik wil je bedanken voor hoe je voor me klaar stond. Je passie om slachtoffers te helpen is aanstekelijk en inspirerend. Het is bewonderingswaardig hoe hard je werkt om steeds betere hulp aan slachtoffers van seksueel geweld te kunnen bieden. Ik ben er trots op te kunnen zeggen dat ik bij jou in de leer mocht.

Het Early EMDR onderzoek had niet kunnen bestaan zonder het harde werk van stagiaires, casemanagers en therapeuten. Dankjewel aan stagiaires Carolien, Janna, Liesbeth, Lotte, Veerle, Tessa, Annewieke en Jane. Jullie hebben een groot deel van de uitvoering van het onderzoek op je genomen, waar ik ontzettend dankbaar voor ben. Voor de deelnemers waren jullie het gezicht van het onderzoek en dat kon ik jullie zonder zorgen toevertrouwen. Bedankt voor jullie betrokkenheid en professionaliteit, maar ook zeker voor alle gezelligheid!

Ik wil ook Charlie, Yvonne en Sisca bedanken voor hun betrokkenheid als coördinatoren van de deelnemende CSGs. Het is dankzij jullie vertrouwen dat we het onderzoek

konden uitvoeren. Bedankt voor de prettige samenwerking. En natuurlijk dankjewel aan alle casemanagers van CSG Utrecht, CSG Flevoland & Gooi- en Vechtstreek, CSG Noord-Holland en CSG Zuid-Holland die hebben bijgedragen aan het werven van deelnemers en het uitvoeren van de controleconditie. Verder wil ik de betrokken EMDR therapeuten van het Landelijk Psychotraumacentrum voor Kind en Jeugd, GGZ Rivierduinen in Leiden, en Kenter Jeugdhulp Kennemerland bedanken voor hun inzet bij de behandeling van de deelnemers. En dankjewel Carlijn, voor de supervisie van de EMDR therapeuten en je waardevolle bijdrage aan het opzetten en afronden van het onderzoek.

Mijn oud-collega's van het Landelijk Psychotraumacentrum, bedankt dat ik een plekje mocht innemen in jullie hechte team. In het bijzonder bedankt aan Arend, Ingeborg en Jet, voor alle keren dat jullie me bij het koffiezetapparaat een hart onder de riem staken!

Voor hun bijdrage aan de publicaties in dit proefschrift, wil ik ook coauteurs Wouter Karst, Carlijn, Janna en Veerle (nogmaals) bedanken.

Hoewel ze niet direct betrokken waren bij dit proefschrift, wil ik ook mijn collega's van Fier en het CKM bedanken voor jullie geduld, vertrouwen en gezelligheid tijdens de afrondingsfase van mijn promotietraject. En met name dankjewel aan Frank, Floortje en Shamir voor de tijd en ruimte die jullie me gunden om aan het proefschrift te werken.

Dankjewel aan mijn lieve familie: Daniël, Ilse, Gilian, Leonie, Laura, Jamie, Mariska, Anja, Rob en Bianca, voor de vele spelletjesavonden, etentjes en feestjes die me de afleiding gaven die ik ook zo nodig had!

Lieve papa en mama, ik ben enorm dankbaar dat ik dit avontuur kon aangaan onder jullie onvoorwaardelijke steun. Jullie staan altijd achter mij, daar heb ik nooit aan hoeven twijfelen. Ook bedankt voor jullie oprechte interesse in mijn werk en de vele open gesprekken die erover we hebben gehad.

Lieve Stefan. Jouw bijdrage aan dit proefschrift is onmeetbaar. Zonder jou zou er geen woord op papier staan. Je stond naast me bij iedere mijlpaal, iedere tegenslag en iedere geleerde les. Jij hebt me er doorheen gesleept. Bedankt voor alles.

CURRICULUM VITAE

Milou Covers was born on April 12th 1992 in Bergen op Zoom in the Netherlands. She studied pedagogics at the University of Amsterdam for her bachelor studies and continued her master program in orthopedagogics at Erasmus University Rotterdam. During her master studies, she interned at the Milestone project at the Sophia Children's Hospital in Rotterdam, which researched the influence of transitions in mental health care on adolescents' psychopathology. Through interviewing many adolescents about their mental health, this internship further developed her interest in researching psychological problems in young people. After completing this internship and obtaining her Masters degree in 2017, she worked for the Milestone project for a year to gain more research experience.

In 2018, Milou was granted the PhD position for the Early EDMR project at the University Medical Centre in Utrecht, where this thesis was written. Her research focussed on the psychological care for victims of rape. For the Early EMDR randomized controlled trial, she worked closely together with the professionals at the Sexual Assault Centres in Utrecht, Flevoland, Noord-Holland and Zuid-Holland, as well as three mental health care providers: GGZ Rivierduinen in Leiden, the Psychotrauma Centre for Children and Youth in Utrecht, and GGZ Kenter Jeugdhulp in Noord-Holland.

While continuing her PhD studies, Milou started working as a researcher for Fier and the Centre against Child and Human Trafficking in 2021. Her research mainly focusses on victims of sex trafficking.