RESEARCH TREATISE

THE RELATIONSHIP BETWEEN RECEIVING AN HIV TEST RESULT AND THE TRAUMATIC STRESS SYMPTOMS OF RAPE SURVIVORS

By

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DECLARATION:

In accordance with Rule G5.6.3, I hereby declare that the above-mentioned treatise is my own work and that it has not previously been submitted for assessment to another University or for another qualification.

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Preface

Thank you for reading this research treatise. Before starting, please note the following in order to make it a fluid and enjoyable reading experience.

This research treatise does not follow the traditional format. Chapter 1 provides an overview of the research study and focus specifically on the methodology that was used. The chapter includes an introduction, conceptual framework, literature review, methodology, aims, and ethical considerations. Chapters 2 and 3 are written in an article format to facilitate a smoother process toward journal publication. Chapter 2 represents article 1, which forms part of the first phase of the research study. This article explores and describes early traumatic stress symptoms of rape survivors in relation to their knowledge of HIV status and demographic factors. Chapter 3 represents article 2, which achieves the primary aim of the research: exploring and describing the relationship between receiving an HIV test result and the traumatic stress symptoms of rape survivors. The treatise document ends in Chapter 4 with the conclusions, providing a summary of the findings to draw all the chapters together, as well as the limitations and recommendations of the research study.

In writing this treatise document, there was the constant tension to maintain the balance between the independent, stand-alone quality of each article, while minimizing repetition to facilitate reading this document cover to cover. Some repetition does however remain and where appropriate the relevant sections can just be glossed over.

Abstract

Rape survivors often have two traumatic events to deal with. In addition to the actual rape experience, survivors commonly need to deal with hearing the results of human immunodeficiency virus (HIV) testing (which is standard practice after rape in South Africa). The relationship between these two traumatic events in terms of the survivors specific traumatic stress symptoms have not been well explored in the literature. The primary aim of this study was therefore an exploration of the relationship between receiving an HIV test result and the traumatic stress symptoms of rape survivors. In order to contextualise the main aim, an exploration of the relationship between demographic variables, knowledge of HIV status and early traumatic stress symptoms was also completed. The initial sample consisted of 97 South African rape survivors, however, only 45 participants returned for the second part of the study. This quantitative study utilised an exploratory descriptive design using the Harvard Trauma Questionnaire-Revised (HTQ-R) to measure the traumatic stress symptoms of rape survivors. The results of the first part of the study indicated that there was no significant difference between participants' demographic factors in relation to their knowledge of HIV status or their overall traumatic stress symptom severity. Significant differences on individual traumatic stress symptoms indicated a relationship between not knowing one's HIV status and dissociation after a rape incident, as well as a relationship between rape survivors who knew their HIV status is positive and emotional dysregulation. The results of the second part (and main analysis) of the study indicated that most participants presented with less severe overall traumatic stress severity after receiving their HIV test results (irrespective of their status before and after hearing their results). However, participants whose HIV status was unknown and who received a positive test result reported more severe overall traumatic stress compared to those whose HIV status was unknown and received a negative test result. Some inter-group differences on individual symptoms were

noted that highlight the possibility that dissociative and an intrusion/hyperarousal subtypes may be at work to explain some of the differences seen.

Keywords: Dissociation, human immunodeficiency virus (HIV), rape, posttraumatic stress disorder (PTSD), traumatic stress severity.

Chapter 1:

Introduction to Study

The true extent of rape occurrence in South Africa is difficult to know because of underreporting (Institute for Security Studies, 2014). While official statistics indicate a decline in reported rapes in South Africa (Institute for Security Studies, 2014), two large scale community based studies suggest lifetime exposure rates between 2.1% (Atwoli et al., 2013) and 18.8% (Machisa, Jewkes, Morna, & Rama, 2011). While it is quite clear that it is difficult to pin down specific exposure rates, it is comparatively apparent that rape is considered a potentially traumatising event (Elklit, Due & Christiansen, 2009; Perrin, et al., 2014) that presents a fairly high conditional risk for posttraumatic stress disorder (PTSD) (Atwoli et al., 2013; Dutton, 2013). In the South African context (like many other parts of the world) there is also the risk of contracting human immunodeficiency virus (HIV) and this is why rape survivors are routinely tested for HIV as part of the normal procedure after reporting the rape (Adefolalu, 2013).

In South Africa, many rape survivors who wish to report the incident make use of the services provided at a Thuthuzela Care Centre (TCC). In 2012/2013 there were 51 TCCs operating in South Africa to assist child and adult rape survivors (Vetten, 2015). The context of this research study involves a TCC based in the Eastern Cape. This governmental interdepartmental one-stop centre is nested in the functioning of the National Prosecuting Authority's (NPA) Sexual Offences and Community Affairs (SOCA) unit. The particular site operates from a governmental hospital in a large metropolitan area and integrates prevention, judicial response and support for rape victims from governmental and non-governmental organisations. This kind of integrated service often needs to deal with the two related traumatic stressors in individuals, but the situation is not unique to this particular TCC.

A growing body of research exists concerning the symptoms of traumatic stress of rape survivors (American Psychological Association and 51st Session UN Commission on the Status of Women, 2007), as well as traumatic stress as a result of being diagnosed with a life

threatening illness like HIV (Matacotta, 2010). Rape survivors are routinely tested for HIV as part of the normal procedure after reporting the rape (Adefolalu, 2013). Because not all rape survivors have knowledge of their status, they potentially have two traumatic events to deal with rather than just one. Given that multiple traumatic stressors would generally compound traumatic stress severity (Ahmed, 2007), one would expect that a positive diagnosis would lead to more severe symptomatology.

The researcher completed a nine month internship in counselling at a local non-governmental organization that offers medico-legal services and psycho-social support to rape survivors at the TCC mentioned above. Through trauma counselling with rape survivors, the researcher observed that the traumatic stress symptoms of the rape survivors seemed to decrease in severity and fewer traumatic stress symptoms were observed after they were given their HIV test results. This is contrary to the existing literature, which suggests that multiple traumatic events (like rape and receiving an HIV test result) may increase the risk and severity of PTSD symptoms (Ahmed, 2007; Breslau, Chilcoat, Kessler, & Davis, 1999). The researcher was not able to find a study on HIV, PTSD, rape, and traumatic stress symptoms that could explain a decrease in the severity of the experienced stress or any literature on which traumatic stress symptoms of rape survivors decreased after they were given their HIV test results. Anecdotal observations therefore led to a literature search that indicated a paucity of information on the topic.

This paucity of studies raises the question whether there is a relationship between rape survivors' traumatic stress symptoms, their knowledge of their HIV status and their demographic factors and whether the secondary experience of receiving an HIV test result (positive or negative) perhaps decreases the severity of traumatic stress of rape survivors. The additional understanding of the relationship between these factors would facilitate the exploration of who is at higher risk for significant traumatic stress and whether there is a

difference between the traumatic stress symptoms of rape survivors who knew their HIV status versus those whose HIV status was unknown to them.

Concepts and Literature Review

Posttraumatic Stress Disorder (PTSD)

As this study focuses on the potential change in the traumatic stress symptoms of rape survivors, it is important to acknowledge the full range of PTSD symptoms. The symptom clusters of PTSD will be conceptualised here according to the Diagnostic and Statistical Manual of mental disorders - fifth edition (DSM-5). The data that will be collected and analysed will, however, be based on the Diagnostic and Statistical Manual of mental disorders - fourth edition –Text Revision (DSM-IV-TR) criteria as it is measured by the HTQ-R.

Diagnostic criteria for PTSD, according to the DSM-5, includes exposure to a traumatic event as well as meeting one or more of the symptoms from the first two symptom clusters and two or more of the symptoms from the third and fourth symptom clusters (APA, 2013). The four symptom clusters, according to the DSM-5 (APA, 2013), are intrusion symptoms, avoidance symptoms, negative alterations in cognitions and mood, and increased arousal symptoms. It also includes that the person experienced a traumatic event that involved actual or threatened death or serious injury, or sexual violence (APA, 2013). These traumatic events include, but are not restricted to, violent personal assault such as sexual abuse or rape and being diagnosed with a life-threatening illness (American Psychiatric Association, 2000). Although it is widely believed that other disorders (e.g. major depression) can be precipitated by external events, these disorders do not require a link with a traumatic event in their diagnostic criteria (Breslau, Chase & Anthony, 2002). Traumatic stress symptoms alone, without a connection to the event, are not regarded as PTSD (Breslau, Chase & Anthony, 2002).

PTSD Symptom Cluster 1: Intrusion Symptoms

According to the American Academy of Experts in Traumatic Stress (2006), intrusions are symptoms that make an individual re-experience the event as if it is happening all over again; the individual experiences difficulty with differentiating between where the intrusion stops and reality begins. According to the DSM-5 (APA, 2013), intrusions can also consist of recurring involuntary memories about the traumatic event(s) that cause psychological distress or a physiological reaction. Intrusive symptoms, often called flashbacks, can range in severity and duration, and typically involve vivid images, strong smells or noises, or even nightmares during which the event is replayed (American Academy of Experts in Traumatic Stress, 2006).

PTSD Symptom Cluster 2: Avoidance Symptoms

According to the DSM-5 (APA, 2013), avoidance is the intentional effort to avoid thoughts or feelings relating to the traumatic event(s) as well as external cues that trigger memories, thoughts or feelings of it. Coping with intrusions and the psychological distress as a result of the traumatic event utilises a lot of energy, therefore survivors often feel emotionless towards others (American Academy of Experts in Traumatic Stress, 2006).

PTSD Symptom Cluster 3: Negative Alterations in Cognitions and Mood

The DSM-5 added this new symptom cluster and the criteria involve persistent and distorted blame of self or others, and a persistent negative emotional state (National Centre for PTSD, 2012). Negative alterations in cognitions and mood can be initiated or exacerbated by the traumatic event(s) (APA, 2013). Persistent distorted cognitions about the traumatic event(s) may also lead to a diminished interest in significant activities (APA, 2013). Negative alterations in cognitions may be due to dissociative amnesia, which may result in an inability to remember an important part of the traumatic event(s) (APA, 2013). Furthermore, the individual may feel detached from others, and have an inability to experience positive

emotions (such as happiness, satisfaction or love), or present with persistent negative emotions, e.g. fear, anger, guilt, or shame (APA, 2013).

PTSD Symptom Cluster 4: Alterations in Arousal

The DSM-5 (APA, 2013) states that increased arousal symptoms are symptoms of anxiety associated with the traumatic event(s), initiated or exacerbated by the event(s). These symptoms may involve disturbances in sleep or concentration, and irritability or anger outbursts without provocation (APA, 2013). The National Centre for PTSD (2012) states that alterations in arousal and reactivity involve reckless or destructive behaviour. Other common symptoms are hypervigilance, a constant search for physical danger everywhere, and an exaggerated startle response, for example reacting quickly to sudden noises and movement (American Academy of Experts in Traumatic Stress, 2006).

HIV Test Results

Various studies have examined whether experiences related to HIV increase the risk of developing PTSD (New York State Department of Health AIDS Institute, 2007). These experiences include the threat of physical harm resulting from the threat of illness or death due to opportunistic infection or disease progression (New York State Department of Health AIDS Institute, 2007). However, according to Kagee (2008), the traumatic stressor for PTSD of survivors diagnosed with HIV must be the receipt of their diagnosis and not their fear of physical illness and death, as these are events that will occur in the future. Traumatisation is a disorder of memory and it must logically follow an event that has already occurred; therefore fears about future events do not meet the criteria as a valid PTSD symptom (Kagee, 2008).

Stotland and Stewart (2008) stated that both men and women find waiting for HIV test results highly stressful, especially those who view themselves to be at high risk for HIV. Individuals with limited social support and a history of previous psychological difficulties are distinctly more distressed during this waiting period (Stotland & Stewart, 2008). According

to Inungu (2005), individuals who receive an HIV negative test result indicate immediate relief of distress. Depression, anxiety, and suicidal ideation also tend to diminish in most people after receiving a negative HIV test result, and emotional stability is established soon after receiving the notification (Stotland & Stewart, 2008).

Kagee (2008) asserted that a positive diagnosis of HIV, on the other hand, is likely to be psychologically disturbing and lead to feelings of despondency, fear, worry, regret, and concern about the future. Newly diagnosed HIV positive persons are likely to experience a range of psychological and emotional difficulties that stem from the knowledge that they have a life-threatening and contagious disease that may result in their physical decline and death (Kagee, 2008). In addition, stigma, discrimination, and ostracisation by friends, family, and society in general may result in further emotional and psychological difficulties (Kagee, 2008). The results of longitudinal studies, however, indicate a discrepancy in the degree of distress among those who received an HIV positive result (Inungu, 2005). One group of studies found an increase in distress, a second group found a non-significant increase in distress, and a third group reported a decline in distress severity among people receiving an HIV positive test result (Inungu, 2005).

Rape Survivors

The sample which the researcher had access to, were individuals from a local Non-governmental organization (NGO) that provides counselling services to rape survivors at a local TCC. All survivors had already reported the rape to the South African Police Service (SAPS). Rape can be defined as intentionally committing an act of sexual penetration regardless of either victim or perpetrator's gender, without the victim's consent (Mattheyse, 2007). The definition of rape has been broadened, in the criminal law (sexual offences and related matters) amendment bill, to also include anal and oral penetration with an inanimate object or animal genitalia (Mattheyse, 2007).

Theoretical Framework

Memory Elaboration and Processing of Intrusive Re-experiencing Symptoms

Ehlers, Hackman and Michael (2004) describe intrusive re-experiencing symptoms as the result of the way trauma memories are encoded, organised, and retrieved from memory. People are not generally flooded with spontaneously triggered, unwanted memories of everyday events in their lives, regardless of numerous cues relating to the event (Ehlers, Hackman & Michael, 2004). Daily events are elaborated and integrated into an autobiographical memory knowledge base, which is therefore easier to be retrieved intentionally, and restrains triggered retrieval through cues associated with the event (Ehlers, Hackman & Michael, 2004). Ehlers, Hackman and Michael (2004) state that internal and external cues associated with a traumatic event, however, trigger memory retrieval. Furthermore, the inability to place the memory into context or to access information that modifies the thoughts and feelings the individual had at the time of the event, prevent trauma memories from being elaborated in the same way as daily events (Ehlers, Hackman & Michael, 2004).

Ehlers, Hackman and Michael (2004) suggested that aside from memory elaboration, two other memory processes are also involved in intrusive re-experiencing symptoms of traumatic memory: perceptual priming and associative learning. *Perceptual priming* is the ability to perceive and unconsciously identify stimuli, through experience with those stimuli (Wiggs & Martin, 1998). Re-experiencing symptoms are therefore triggered by internal or external cues that are perceptually similar to the intrusions or the cues that immediately preceded the trauma (Ehlers, Michael, Chen, Payne, & Shan, 2006). *Associative learning* during the trauma results in connections between cues and the traumatic event. These cues act as warning signals that have strong perceptual priming, which causes the individual to be sensitive to these cues and creates a sense of current threat (Young, 2011). These processes,

thus, enable awareness of visual, auditory, or internal cues (sensations, thoughts or emotions), which reminds the survivor of the trauma and will automatically trigger re-experiencing symptoms (Ehlers, Hackman & Michael, 2004). As a result a slight physical resemblance of the context in which the stimulus is observed would be adequate to perceive the stimulus as similar to those present during the trauma, and therefore the triggering of intrusions (Ehlers, Hackman & Michael, 2004).

Although triggers may be an adaptive response soon after the trauma, and many survivors may create an elaborated autobiographical memory for the trauma as they process it, re-experiencing may persist if the survivor does not succeed in placing the trauma memory into context and updating it with subsequent information (Ehlers, Hackman & Michael, 2004). Another reason why re-experiencing will persist, is the survivors' failure to identify their triggers, which makes it difficult to differentiate such triggers from the stimuli that they came across during the trauma, and to learn that there is no current danger (Ehlers, Hackman & Michael, 2004).

Persistence of Intrusive Memories and Avoidance

Ehlers (1995) asserted that symptoms of PTSD such as intrusive memories about the traumatic event are very common immediately after the trauma, it therefore seems important to understand which factors explain why some survivors with initial PTSD symptoms recover while for others these symptoms persist. Intrusive re-experienced symptoms are maintained by the distinctive meaning that the intrusion holds for the survivor (Ehlers, 1995). Ehlers (1995) suggested that the meaning predicts the distress these intrusions cause, as well as the extent to which the survivor uses control strategies, which maintain the intrusions by preventing modification of the meaning of the trauma and the traumatic memories. The processes that prevent this modification of the meaning and maintenance of intrusive memories include safety behaviours; dissociation and numbing; suppression of thoughts and

memories about the traumatic event; rumination; anger, guilt and related cognitions; and selective information processing (Ehlers, 1995).

Intrusive memories persist as a result of avoidance strategies which prevents the complete processing of these memories. Such processing can be facilitated by either incorporating the trauma into existing schemas or by developing a new schema that takes the trauma into account (Ehlers, 1995). Avoidance and numbing strategies prevent the survivor from becoming besieged by the intrusions, however, excessive control of the intrusions will cause incomplete processing of the trauma, which means that the trauma will remain an active memory and therefore intrusions will persist (Ehlers, 1995).

The Influence of Neurobiological and Psychosocial Factors on Hyperarousal Symptoms

The prefrontal cortex filters out unimportant stimuli and inhibits cognitive and emotional arousal of the amygdala. In PTSD, however, higher brain regions do not dampen amygdala arousal (Weiss, 2007). This deficiency in emotion regulation and overactive amygdala may result in hypervigilance to trauma-related cues, an exaggerated startle response, flashbacks, and misinterpretation of stimuli as potentially threatening (Weiss, 2007). Survivors of a traumatic event appear to develop an impaired relay of information from the thalamus to the prefrontal cortex during hyperarousal; this interferes with the processing of information and increases nervous system arousal, as the survivor attends and reacts more to decontextualized trauma-related information (Weiss, 2007).

Elevations in epinephrine increases metabolism; respiration; heart rate; attention; and concentration, which underlie hyperarousal symptoms, this may, however, be adaptive after a trauma in the short term (Weiss, 2007). During chronic traumatic stress, the amygdala cues the brainstem to increase firing of norepinephrine, which elicits hyperarousal symptoms including anxiety, irritability, sleep problems and nightmares (Weiss, 2007). Serotonin calms and diminishes anxiety; severe traumatic stress, however, can lead to excessive serotonin

activation, which could result in serotonin depletion (Weiss, 2007). This may contribute to hyperarousal symptoms such as hypervigilance, impulsivity, and irritability (Weiss, 2007). Physiological arousal enhances the reprocessing of trauma memories; persistent hyperarousal in a high psychosocial risk environment, however, contributes to chronicity of the disorder (McCleery& Harvey, 2004). High psychosocial risk environments would be situations in which there is a real risk for recurrent trauma, or where the event led to further threats to physical or emotional security (McCleery& Harvey, 2004). Factors operating after event exposure tend to have stronger effects on risk than pre-exposure factors (McCleery& Harvey, 2004). This may explain why some rape survivors may experience an increase in traumatic stress symptoms after receiving an HIV test result, as it would constitute an additional traumatic experience, which may be experienced as a physical and emotional threat to the survivor.

Possible Influences of a Secondary Trauma on Traumatic Stress Symptoms

Triggers and the accompanied hyperarousal symptoms that are often experienced by survivors soon after the traumatic event may be adaptive as they prevent avoidance symptoms and therefore allow the survivor to process the traumatic event (Ehlers, Hackman & Michael, 2004; McCleery & Harvey, 2004). As increased physiological arousal is a symptom of anxiety, and receiving an HIV test result is generally deemed anxiety provoking, one could assume that this secondary event could perhaps prevent the rape survivor from avoiding their triggers and intrusions, allowing them to process the rape incident along with the secondary trauma. This may explain the researcher's experience that some survivors present with fewer traumatic stress symptoms or experience a decrease in symptom severity.

According to Ehlers (1995), revising the meaning the trigger holds for survivors, as well as incorporating the trauma into existing schemas or developing a new schema that integrates the traumatic experience, instead of using avoidance strategies, facilitates memory

elaboration and processing of the traumatic event. Ehlers, Hackman and Michael (2004) stated that elaboration of information about the event and its context makes it easier to allow the memory of the event to be recalled intentionally and to restrain triggered retrieval of these memories. One could speculate that another reason why rape survivors' symptoms change after the second traumatic experience, could be that they are then required to revise the meaning of the rape incident. Based on this hypothesis, the rape survivor would then be in the process of trying to incorporate the traumatic experience into existing schemas or alternatively developing a new schema when they receive their HIV test results. This could promote integration and elaboration of the trauma and its context and result in fewer re-experiencing symptoms.

Ehlers and Clark (2000) stated that suppression of thoughts, avoidance, and rumination are some of the methods survivors may use to prevent modification of the meaning and maintenance of intrusive memories. If the rape survivor avoids thinking about the event and tries to avoid trauma memories, it would make sense that they would recurrently experience intrusions about the event. If they are constantly ruminating about the rape incident or about their possible HIV test results, or struggling to cope with feelings of anger and guilt, they may not allow the modification of their negative thoughts and feelings. It would therefore be understandable that after receiving their HIV test results, they may continue to present with traumatic stress symptoms or even experience an increase in symptom severity due to the secondary trauma.

Problem Statement

The above literature outlines that rape survivors are exposed to two potentially traumatic events in a relatively short space of time. Traumatic stress responses are complex with a single event and the interaction between these two frequently co-occurring events on

traumatic stress symptoms has not been explored. The study therefore aimed to start filling this knowledge gap.

Aims

The primary aim of this study is to explore and describe the relationship between receiving an HIV test result (positive or negative) and the traumatic stress symptoms of rape survivors. In order to contextualise this primary aim, a supportive aim that more fully explores the interaction of variables at the first assessment point was added. The supportive aim of the study is to explore and describe early traumatic stress symptoms of rape survivors in relation to their knowledge of their HIV status and their demographic factors. Because the findings from the supportive aim illuminate the main aim, they are presented first. The supportive aim will therefore be explored in chapter 2 (article 1), followed by the primary aim, which will be explored in chapter 3 (article 2).

Research Methodology

Research Design

The researcher used quantitative data collection and analysis. Quantitative research explains phenomena by collecting numerical data and analysing the data using statistical methods (Aliaga & Gunderson, 2000). This research method also tests hypotheses and analyses phenomena in terms of trends and frequencies (Aliaga & Gunderson, 2000). Because change in symptom severity was an inherent focus of the study, a *quantitative research method* was thought appropriate. It is easier to investigate and demonstrate change using a quantitative methodology as compared to a qualitative methodology.

A research design is the intended plan of how the research will be conducted to investigate the research question (De Vos, Strydom, Fouche, & Delport, 2005). The research design in the study was exploratory and descriptive. Exploratory studies investigate relatively unknown areas of research in order to find new insights into phenomena (Terre Blanche, Durrheim &

Painter, 2006). An *exploratory design* was appropriate for this research study, as no research could be found to date on the relationship between receiving an HIV test result and the traumatic stress symptoms of rape survivors, which is therefore an unstudied phenomenon. Descriptive studies aim to describe phenomena accurately through for example measuring relationships and often require using questionnaires as a data collection method (Terre Blanche, Durrheim & Painter, 2006; De Vos et al., 2005). A *descriptive design* was appropriate in this research study, as the researcher measured and described rape survivors' knowledge of their HIV status and demographic factors in relation to their early traumatic stress symptoms, as well as the relationship between an HIV test result and the traumatic stress symptoms of rape survivors.

Participants and Sampling Procedure

The aim of this research involved reaching participants from a specialised population. Non-probability purposive sampling and convenience sampling was used to match the purpose of this study. According to De Vos et al. (2005), purposive sampling allows the researcher to obtain a sample that consists of the most representative attributes of the population. *Purposive sampling* was therefore appropriate in this case, as rape survivors would typically meet the criteria for traumatic stress symptoms and routinely undergo HIV testing as part of the services provided by the Thuthuzela Care Centre (TCC), where the data was collected. The use of purposive sampling made it difficult to know how many participants the researcher would be able to reach and the researcher was only at the TCC during certain hours, which adds bias. It is important to note, however, that every potential participant that was invited to take part in the study, agreed to participate. In the opinion of the researcher, the selected sampling procedure worked well in this research study and the sample is reasonably representative of rape survivors who report their traumatic incident at the TCC in question.

Convenience sampling obtains a sample that includes respondents who are most easily available and relates to the phenomenon being studied, until the sample reaches a designated size (De Vos, et al., 2005). *Convenience sampling* was appropriate in this case, as the sample was identified within the context of an existing collaborative relationship with the local NGO that assist rape survivors. Rape survivors typically meet the criteria for traumatic stress symptoms and routinely undergo HIV testing as part of the services provided by the TCC. Rape survivors who make use of the services offered by this NGO have disclosed their rape to the police and receive an opportunity to engage in counselling.

The sample included adult survivors (18 years and older) of a recent traumatic rape incident, and the first interview took place from 48 hours to one week after the rape incident. This time frame is important, as enough time needs to lapse after the traumatic event, before rape survivors typically present with traumatic stress symptoms. The rape survivors also receive their HIV test results within one week of the HIV test; therefore the first interview needed to take place before the rape survivor received their HIV test results. The first interview also did not take place within the peritraumatic time period, which is characterised by high levels of distress and possible dissociation. During this peritraumatic time period, trauma victims may experience dissociation or alterations in perception and reduced awareness of their environment (Dong & Li, 2014). The timeframe during which the interviews took place thereby ensured that participants had the capacity to provide informed consent and avoid undue harm. The second interview took place within one week after the rape survivors received their HIV test results.

The intended sample size for the research study was a minimum of 100 participants including a minimum of 20 participants whose previous knowledge of their HIV status is positive; a minimum of 20 participants whose previous knowledge of their HIV status is negative; and a minimum of 60 participants whose previous HIV status is unknown to them.

The sample size and the abovementioned subdivision of the sample for the study was selected to be sufficient to attempt to minimize the possible influence of extraneous variables on the participants' traumatic stress symptoms. However, the researcher was only able to obtain 97 participants and was not able to achieve the intended subdivision of the sample, due to time and resource constraints. In order to be able to establish if it is in fact the receiving of an HIV test result that effects a change in the trauma symptoms of the rape survivors, it is necessary to compare those who had previous knowledge of their HIV status to those who did not, as well as the difference between those who receive a positive HIV test result versus a negative HIV test result. Rape survivors with previous knowledge of an HIV positive status therefore served as a pseudo-control group. Furthermore, the researcher did not want to exclude rape survivors who are HIV positive from the study, as this practice may be experienced as a discriminatory rejection by participants.

The initial sample included 97 adult survivors (18 years and older) of a recent traumatic rape incident. Fifty nine of the 97 participants were between 20-29 years of age, 94 participants were female, 31 were coloured South Africans and 66 were black South Africans, 53 participants had Grade 1-11 education and 44 had Grade 12 or tertiary education. Only 45 of these participants returned for their HIV test results, follow-up medication and counselling, at which time the second interview took place. The high attrition rate between the first and second assessments resulted in a relatively small sample to meet the primary aim; therefore, this study is purely exploratory, as the researcher cannot make inferences with regards to causality.

Table I presents the 97 participants' previous knowledge of their HIV status and what their HIV test results were. All participants who reported their HIV status as negative (34) received an HIV negative test result, and all those who reported their HIV status as positive

(14) received an HIV positive test result. Forty nine participants reported their HIV status as unknown, of which 18 received an HIV positive test result.

Table I

Contingency Table: Previous Knowledge of HIV Status and HIV Test Result

Knowledge of HIV Status	Test Result				Total	
	Negative		Positive			
HIV negative	34	100%	0	0%	34	100%
HIV positive	0	0%	14	100%	14	100%
HIV unknown	31	63%	18	37%	49	100%
Total	65	67%	32	33%	97	100%

In the five month period during which data was collected, 523 rape survivors opened a case of rape at the TCC. Forty nine percent of these cases were children under the age of 18, 57% of the adult survivors were between 20-29 years of age, and 89% of the reported cases in this time period were female. One hundred and twenty of the rape survivors were coloured, 382 were black Africans, and 21 were survivors from other races. According to the TCC databases, 52% of the rape survivors who opened a case in this five month period reported their knowledge of their HIV status as negative, 17% reported their knowledge of their HIV status as positive, and 32% reported their HIV status as unknown. An interesting finding was that 145 of the survivors who reported a rape incident selected to not receive HIV testing at the TCC, of which 132 reported their HIV status as unknown. Table II illustrates the comparisons between these statistics versus the sample of participants who participated in the research study, to demonstrate the sample's representativeness of the rape survivors who reported a rape incident during this time period.

Table II

Comparisons between TCC's Statistics of Cases Opened during Data Collection Period versus the Research Study's Statistics of the Sample

	Statistics from TCC database	Statistics from research study
Reported a rape incident	523	19% (97 participants)
Children under 18 years	49%	n/a
20 - 29 years of age	57%	61%
Females	89%	97%
Black South Africans	73%	68%
Coloured South Africans	23%	32%
Other races	4%	none
Knew HIV status is negative	52%	35%
Knew HIV status is positive	17%	14%
HIV status unknown	32%	51%

All potential participants, excluding those that did not have the capacity to provide informed consent, due to age (<18 years) or mental disability, as well as individuals who were institutionalised at the time (e.g. in correctional services), were invited to participate in the study. Every participant who was approached to be part of the study, agreed to participate. The sample is reasonably representative of individuals with the ability to provide informed consent, who report rape incidents, and return to receive their HIV test results and counselling services at this specific TCC. The sample in this study is relatively small and may not be representative of all TCC's in South Africa or all rape survivors in general. As the majority of rape survivors do not report the incident to the police, it is almost impossible to have a clear understanding of how rape survivors in general experience this traumatic

incident and its aftermath or even to know whether those that don't report go for voluntary HIV testing.

Research Procedure

Prior to commencement of the proposed study, necessary approval was obtained from the Health Sciences Faculty Postgraduate Studies Committee (FPGSC) and the NMMU Research Ethics Committee (Human) (REC-H). Once permission was obtained, participants were recruited from the TCC with the assistance of the NGO that provides counselling services to survivors. There is an existing collaborative relationship between the researcher, the supervisor, and the TCC who agreed to participate in the research study.

A pilot study was not conducted, as the research measure that was used to assess the participants' traumatic stress symptoms is generally part of the monitoring process of rape survivors at the TCC. Furthermore, the questionnaire has been adapted for use in South Africa, including use with rape survivors (Dutton, 2013) and to screen for the occurrence of PTSD in individuals who have been diagnosed with HIV (Myer, et al., 2008).

The registered counsellors in training, completing their practicum at the TCC, were previously trained by a psychologist to recruit participants and to administer the HTQ-R. Registered counsellors in training are fourth year psychology students, completing an internship to gain practical experience, after which they may write a board exam and register with the HPCSA to practice as registered counsellors. The Health Professions Council of South Africa (HPCSA) guidelines (2004) on registered counsellors' scope of practice, allows these counsellors in training to collect data, and perform psychological screening and basic assessment, under supervision. Furthermore, the HTQ-R was designed to be administered by health care workers, including trained refugee paraprofessionals under supervision (Mollica, Mc Donald, Massagli & Silove, 2004), and is therefore judged to be appropriate for use by registered counsellors in training (because they are considered to be at a higher level of

training than paraprofessionals). According to the coordinators of the registered counsellors in training, these counsellors may use the HTQ-R as a standard protocol to screen for traumatic stress symptoms and to monitor their progress and effectiveness, as part of their counselling process protocol. This monitoring function is a routine part of the registered counsellors' work at these centres.

Potential participants were approached by the researcher, the registered counsellors in training (fieldworkers) or anyone assisting the rape survivors at the TCC to invite them to participate in the research study. The individuals who assist the rape survivors at these centres, and thereby have direct contact with potential participants, include the counsellors' coordinator, the registered counsellors in training, and the lay counsellors. During these face-to-face invitations, the researcher and the abovementioned individuals who assist the rape survivors provided potential participants with an information letter (Appendix A) which explained the nature of the study and what their participation would entail.

Participants who agreed to take part in the study, and who were already in the process of receiving counselling from a registered counsellor at these centres, received an informed consent form (Appendix B) from their counsellor who then answered any questions they had about the study. Once the participant had completed the informed consent form, the first assessment commenced. As previously stated, the first assessment took place 48 hours to one week after the participant's rape incident. The first assessment included a biographical questionnaire (Appendix C), which was completed by their counsellor. The counsellor then measured the participant's traumatic stress symptoms using a structured interview schedule, the HTQ-R Part IV. This measure is not reproduced in this treatise because of limitations on the agreement in place to use it. The second assessment took place within one week after the participant received their HIV test results, at which time the participant's traumatic stress symptoms were measured again, using the HTQ-R. The participant received immediate

feedback after each assessment, from their counsellor, regarding their traumatic stress symptoms. The assessment thereby served as a monitoring process and did not interfere with the process that had already been started by their counsellor. This process allowed the data collection procedure to be less intrusive and more meaningful for participants.

Alternatively, if the participant agreed to participate in the study, but had declined to receive counselling, they were referred to the researcher who provided them with an informed consent form and answered any questions they had about the study. The researcher is fluent in Afrikaans and English and made use of a Xhosa interpreter where language may have been an impediment. The interpreters included social workers, fieldworkers or lay counsellors who assist rape survivors at the TCC. The first assessment then commenced, during which the researcher completed the biographical questionnaire and measured the participant's traumatic stress symptoms, using the HTQ-R. Within one week after the participant received their HIV test results, the second assessment took place. The participant received immediate feedback after each assessment, from the researcher, regarding their traumatic stress symptoms. Participants were also encouraged by the researcher to make use of the available counselling services, if deemed necessary.

In the opinion of the researcher, the research procedure worked well and participants seemed to understand what was requested of them in terms of agreeing to participate in the study. A few participants remarked that taking part in this study made them feel like they were contributing in helping others who share in the same traumatic experience that they did and that they found the feedback after the assessments helpful. Although language barriers were a challenge, the assistance of interpreters with the assessments, worked very well.

Research Measures

The biographical questionnaire consists of demographic information on the participant and their contact information which were necessary to facilitate communication for the follow-up

assessments. Rape survivors are routinely provided with HIV pre- and post-test counselling at the Thuthuzela Care Centre. During their pre-test counselling their knowledge of their HIV status is routinely gathered. For the purposes of this study participants were not asked to disclose this information again, only requested whether the researcher may access their information that had already been collected in this regard. The participants were also not requested to include their names or any identifiable information in the questionnaires. The signed informed consent forms were linked via a code (reference number) to their questionnaires and kept separate from the questionnaires to ensure anonymity. This means that the interviewer (researcher or fieldworker) conducting the assessments did not have direct access, or request disclosure of, the participant's HIV status. With the participant's written informed consent, the researcher accessed this information from the Thuthuzela Care Centre's databases, after the assessments were completed.

The Harvard Trauma Questionnaire-Revised (HTQ-R) is a structured interview in checklist form that inquires about traumatic events and PTSD symptoms. Only Part IV of the HTQ-R was administered to assess the trauma symptoms of the rape survivors. The HTQ-R Part IV produces 16 items related directly to the symptoms of PTSD (as listed in the DSM-IV- TR). This measure was used as, to the knowledge of the researcher, there are no measures available based on the DSM-5 criteria for PTSD that have been shown to be valid and reliable in the South African context. According to the HTQ-R manual, an aggregate symptom score of ≥ 2.50 has been scientifically recognized as suitable for the likely presence of PTSD (Mollica, McDonald, Massagli, & Silove, 2004). The HTQ-R requests the participant to report their experience of each item (traumatic stress symptom), in terms of how much it bothered them, on a 4-point likert-scale, including "not at all" (1), "a little" (2), "quite a bit" (3), and "extremely" (4). In the opinion of the researcher, a response of "quite a bit" or "extremely" on an individual symptom could reasonably be considered to be present and

salient in the experience of the participant. In line with the ≥ 2.5 average guideline offered in the manual for total scores, for the purpose of this study, an aggregated score of 2.5 or higher on an individual traumatic stress symptom was deemed to be diagnostically significant.

The Harvard Trauma questionnaire was originally developed for Indo-Chinese refugees in America and consists of four subscales namely: trauma events, personal description, head injury, and trauma symptoms (Mollica, et al., 1992). According to Dutton (2013), the questionnaire has since been adapted for use in South Africa and has been demonstrated to have adequate internal consistency in the South African context, including use with rape survivors. Halvorsen and Kagee (2009) used the HTQ-R to predict the psychological profiles of 143 former South African political prisoners who were torture survivors. Part IV of the HTQ-R obtained an internal consistency of 0.95 in this study (Halvorsen & Kagee, 2009). The HTQ-R has also been used to screen for the occurrence of PTSD in individuals who have been diagnosed with HIV in South Africa (Myer, et al., 2008). In terms of its psychometric properties with rape survivors, Dutton (2013) reported that the HTQ-R Part IV is internally consistent (Cronbach's alpha of 0.87 comparable to the previous 0.95 found by Halvorsen and Kagee, 2009) and that the average item-total correlation is fair (r = 0.30), which indicates that this measure is a reliable measure when used with rape survivors in a South African context. Furthermore, in terms of the cross-group equivalence (semantic, metric, and construct equivalence) of the HTQ-R, this measure is considered effective if used as an interview schedule with adult rape survivors in South Africa (Dutton, 2013). According to Dutton (2013), explorations regarding the external (construct) validity and scalar equivalence of the HTQ-R are still required.

According to Dutton (2013), participants with a Highest Level of Education (HLE) at Grade 8 or lower find it subjectively more difficult to understand the Harvard Trauma Questionnaire – Revised (HTQ-R). Participants who indicated their highest level of English

schooling to be below Grade 9 were still included; however, the researcher and fieldworkers continuously verified participants' understanding when the questionnaire was administered. The interview method allowed the researcher or fieldworkers to explain the questionnaire items to the participant's satisfaction, where language may have been an impediment for participants in understanding the questions. The researcher is fluent in Afrikaans and English, and the fieldworkers were fluent in either English and Afrikaans or English and Xhosa. Participants, who declined to receive counselling but agreed to participate in the study, were interviewed by the researcher, who made use of a Xhosa translator where language may have been an impediment for participants in understanding the questions. The questionnaire was administered in English and items were explained in the participants' first language, by the fieldworkers, the researcher or with the assistance of a translator, where needed.

In hindsight the researcher is of the opinion that a measure that incorporated more items enquiring about dissociative experiences could have added to the rigor of the research findings. The assessment measure was used as a structured interview schedule and participants appeared to find it easier to provide responses, as this procedure allowed for a discussion of the items on the measure and their personal experiences of the symptoms, to ensure proper understanding. The HTQ-R was a useful measure to assess PTSD symptoms and severity in this study.

Data Analysis

After a discussion with a statistician regarding the aims and data analysis methods of the research study in conjunction with the results, it was decided to use t-tests and chi-square analysis, as well as Analysis of Variances (ANOVAs) to analyse the data.

Table III

Data Analysis Methods applied to the Research Aims

	Aim	Data analysis method
Supportive aim	To explore and describe early traumatic stress symptoms of rape survivors in relation to their knowledge of HIV status and demographic factors (chapter 2, article 1).	Descriptive statistics Chi-square analysis t-Tests Cohen's d ANOVAs Post hoc Scheffé tests
Primary aim	To explore and describe the relationship between receiving an HIV test result (positive or negative) and the traumatic stress symptoms of rape survivors (chapter 3, article 2)	Descriptive statistics Chi-square analysis t-Tests Cohen's d

Descriptive statistics are used to describe the meaning of a large collection of observations on different cases in a condensed and descriptive way (Cohen & Lea, 2004). Descriptive statistics were used in this study to describe the demographic characteristics of the sample.

T-tests are most commonly used to analyse the differences in means between two independent or dependent groups (Stat Soft Inc., 2013). In this study the t-test for dependent samples was used to analyse and exclude within-group variation and the standard error of the difference between the group means, thereby increasing the sensitivity of the design (Mitchell & Jolley, 2010; Stat Soft Inc., 2013). Cohen's d was also computed to describe the influence of the independent variables in terms of its effect size on dependent scores (Heiman, 2011).

For example, to determine whether the significant difference between participants who know their HIV status and those whose HIV status are unknown, is large, medium or small.

Chi-square analysis is an inferential statistical test that analyses the relationships between two or more variables, in order to determine whether the variables are related as well as the probability that the conclusion is correct (Vaughan, 2001). The goodness-of-fit test or chi-square analysis therefore compares what the researcher expected to find when the null hypothesis is true with what the researcher actually observed (Peck, Olsen & Devore, 2012).

The analysis of variance (ANOVA) is an inferential statistical procedure used in experiments where the hypothesis of the study requires comparing more than two conditions of an independent variable (Heiman, 2011). ANOVAs are used to measure one dependent variable on a quantitative scale at a time, in this study individual traumatic stress symptoms, and comparing three groups that represent existing populations, in this study knowledge of status (negative, positive and unknown) as well as comparing the traumatic stress symptoms with three age categories. A post hoc Scheffé test was conducted on the ANOVA results that were significant to assess the complex comparisons, to denote the effect further (Cohen & Lea, 2004).

HTQ-R rigour indicators. Although the researcher is aware that extraneous variables may have an influence on the change in the participants' symptoms, as previously stated, the sample size has been selected to be sufficient to at least minimise the effects of these variables. Dutton's (2013) results indicated adequate internal consistency and the data in her study fit a one factor construct best. There is therefore evidence for reliability as well as construct validity using the total score (rather than cluster scores), which was done in this study as well. The researcher also computed Cronbach's alphas and ran a confirmatory factor analysis.The Cronbach's alpha for the first assessment (n=97) was 0.68, for the first assessment (n=45) it was 0.69, which were both acceptable, and for the second assessment

(n=45) the Chronbach's alpha was 0.80, which is excellent. When items 4, 5 and 15 were omitted from the first assessment (n=97), the alpha improved from acceptable to good (0.70 - 0.72). When item 15 was omitted from the second assessment (n=45), the alpha also improved to 0.81. The confirmatory factor analysis (CFA), which considers the validity (in terms of construct structure) of the instrument, indicated that a three-factor structure according to the DSM-IV-TR (which the test was initially developed from) does not work and that a single-factor solution works better. The first assessment (n=97) of rape survivors' traumatic stress symptoms on all 16 items showed the best fit to a single-factor solution (see table IV). In terms of this study, the researcher explored rape survivors' traumatic stress symptom severity in terms of the total (best fit) score as well as on an individual symptom level, and not according to the clusters listed in the DSM-IV-TR. Because of these procedures the relatively poor fit to existing models should not impede the quality of findings unduly.

Table IV

Confirmatory Factor Analysis

			All Items	Items 4, 5, 15 omitted
Sample size	n		97	97
No. of items	m		16	13
Absolute/predictive fit	Abbr.	Target	Observed	Observed
Chi-square (Maximum likelihood)	χ^2		301.67	181.75
	df		104	65
	p	$\geq .050$	$< .0005$	$< .0005$
	χ^2/df	≤ 2	2.90	2.80
Comparitive fit				
Bentler-Bonnet normed fit index	NFI	$\geq .95$	.31	.41
Bentler comparative fit index	CFI	$\geq .95$	.37	.50
Other				
Joreskog adjusted GFI	AGFI	$\geq .95$	.68	.72
	95%Lo		.103	.095
Root mean square error of approximation	RMSEA	$\leq .08$	.122	.119
	95%Hi		.141	.144

Note. χ^2 = Chi-square; df = degrees of freedom; p = p-value.

The researcher would have preferred to use multivariate analysis instead of being limited to using t-Tests for most of the data analysis, however, the relatively small sample size was a limitation and there were too many variables in the data. In the researcher's opinion, the research questions and aims were succefully adressed using the above mentioned methods of

statistical analysis, but more appropriate statistics could have been used if the sample size was bigger. In the end the nature of the research also means that the exclusion of more sophisticated multivariate statistics does not significantly impede the exploratory goals of this research.

The high attrition rate as well as time and resource constraints resulted in a relatively small sample. As a result, the researcher was limited to use less sophisticated statistical analysis and could not make inferences with regards to causality. However, the researcher is confident that the research methodology in general was appropriate and successful in addressing the research questions and aims.

Ethical Considerations

Ethics are the generally accepted moral principles, which present rules and behavioural expectations about the most accurate conduct towards participants, other researchers, students etc. (De Vos, et al., 2005). It is therefore the researchers' ethical responsibility towards the participants involved in the study, to conduct the research study in an ethical and professional manner. After obtaining permission for commencement of the research from the aforementioned Research Ethics Committee (Human), the ethical measures and strategies that were employed specifically included:

Respect for Persons

The research participants are acknowledged and treated as individuals that are capable of deliberating their personal goals and act accordingly, and their opinions and decisions are respected without obstruction or withholding necessary information (The Belmont Report, 1979). The researcher also respects and strives to protect the participants' fundamental human rights and dignity (Health Professions Council of South Africa (HPCSA), 2004).

Obtaining Voluntary Participation

The information letter clearly states that the rape survivors' participation in the research is voluntary and that their participation would not negatively affect or benefit their legal case or treatment at the TCC in any way, whether they chose to participate or not. They were also informed that their right to refuse or withdraw from the research at any point would be respected by the researcher (HPCSA, 2004).

Obtaining Informed Consent

Participants were provided with the opportunity to give informed consent, in order to provide a thorough understanding of the genuine goal and overall purpose of the research study (HPCSA, 2004). Participants were in no way deceived or coerced in order to obtain their participation (HPCSA, 2004). The researcher, the registered counsellors in training (fieldworkers) or anyone assisting the rape survivors at the TCC approached the participants and provided them with an information letter. If the participant agreed to participate in the study, written informed consent was obtained, and the researcher or fieldworkers answered any questions participants had. The signing of the consent document in the presence of the researcher or fieldworkers served as an indication by the participant that they wished to consent voluntarily to the research. The first interview took place 48 hours to one week after the rape incident and not within the peritraumatic time period (high levels of distress and possible dissociation). This timeframe thereby ensured that participants had the capacity to provide informed consent.

Beneficence

Research participants were protected from harm, their well-being was secured by all possible means, and possible benefits are maximised (The Belmont Report, 1979). The benefits of this study are maximised by adding to the knowledge of counsellors and other clinicians working with rape survivors, which may lead to further research into the

development of counselling and therapeutic procedures (The Belmont Report, 1975). The risks that could occur from this study were reduced by minimising or avoiding harm.

Avoiding Harm

The researcher took all reasonable steps to avoid harming the participants, including harm through victimisation, harassment or coercion (HPCSA, 2004). The researcher is aware that the research topic may have evoked negative emotions and therefore consciously attempted to minimise undue distress. As previously mentioned, participants were not interviewed during the peritraumatic time period (within the first 48 hours of the rape incident), to further avoid gratuitous harm. Participants were also informed in advance about the potential negative emotions or discomfort that could arise during their participation, and were encouraged to make use of the counselling services at the TCC, should they experience any distress as a result of their participation in the research.

Justice

The researcher aims for fairness in distribution of benefits, by not denying any individual a benefit to which they are entitled or unjustifiably impose a burden on any participant (The Belmont Report, 1979). All participants were treated equally and ethically, and the benefits of the research as previously explained are intended to be distributed to those that assist rape survivors in the long term. Participation in this study also did not result in any additional expenditure to the participant.

Ensuring Confidentiality

Participants' identities and personal information are not revealed upon reporting the research findings, and their privacy is respected by the researcher throughout the managing of the data obtained. The researcher protects the confidentiality of the participants' information, by using coding to avoid the inclusion of personal identifiers (HPCSA, 2004). Only the research team (the researcher, supervisors, fieldworkers, and statistician) has access to the

participants' questionnaires (HTQ-R) and biographical information, and the participants were not requested to include their names or any identifiable information in these questionnaires. Their consent forms are linked to their questionnaires via a code and kept separate from the questionnaires to ensure anonymity.

In the researcher's opinion, the research study was conducted in an ethical manner according to the guidelines described above. To the researcher's knowledge none of the participants experienced any distress as a result of participating in the research. Participants seemed to understand the purpose and aims of the research, as well as what they were providing consent for.

Outline of the Study

The results from this study are written up in article format to facilitate publication. In compiling this document, it was a constant challenge to maintain a balance between the stand-alone quality of each article and to minimise repetition within the document as a whole (see preface). Before exploring the findings of the overall aim, which involves the relationship between receiving an HIV test result and the traumatic stress symptoms of rape survivors (article 2 in chapter 3), it was deemed necessary to understand the supportive aim. The supportive aim, which involves early traumatic stress symptoms of rape survivors in relation to their knowledge of HIV status and demographic factors (article 1 in chapter 2), will therefore be discussed first. The final chapter concludes and summarizes the findings of this study, followed by a discussion of the limitations and recommendations of the study.

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CHAPTER 2:

(ARTICLE ONE)

Early Traumatic Stress Symptoms of Rape Survivors in Relation to their Knowledge of HIV status and Demographic Factors

Abstract

A number of conceptual and practical overlaps indicate a potential relationship between demographic variables, knowledge of human immunodeficiency virus (HIV) status and early traumatic stress severity. Knowledge of HIV status and traumatic stress severity present a salient clinical duality in the case of rape survivors. No literature to date explores these relationships. This study examines early traumatic stress symptoms of a sample of 97 South African adult rape survivors, their knowledge of their HIV status and the demographic factors, such as age, race and level of education, to describe the relationship between these factors. This quantitative study utilised a descriptive exploratory design using a biographical questionnaire and the Harvard Trauma Questionnaire – Revised (HTQ-R). The results indicated that there was no significant difference between participants' demographic factors in relation to their knowledge of HIV status or their overall traumatic stress symptom severity. Significant differences on individual traumatic stress symptoms indicated a relationship between not knowing one's HIV status and stronger dissociation after a rape incident. Furthermore, clinically significant differences on individual traumatic stress symptoms also indicated that rape survivors who knew their HIV status is positive had more symptoms indicative of emotional and affective numbing. The results underscore the importance of considering these issues in the management of rape survivors.

Keywords: Demographics, dissociation, emotional dysregulation, Human immunodeficiency virus (HIV), numbing, rape, traumatic stress symptoms.

Introduction and Literature Review

The true extent of rape occurrence in South Africa is difficult to know because of underreporting (Institute for Security Studies, 2014). While official statistics indicate a decline in reported rapes in South Africa (Institute for Security Studies, 2014), two large scale community based studies suggest lifetime exposure rates between 2.1% (Atwoli et al., 2013) and 18.8% (Machisa, Jewkes, Morna, & Rama, 2011). While it is quite clear that it is difficult to pin down specific exposure rates, it is comparatively apparent that rape is considered a potentially traumatising event (Elklit, Due & Christiansen, 2009; Perrin, et al., 2014) that presents a fairly high conditional risk for posttraumatic stress disorder (PTSD) (Atwoli et al., 2013; Dutton, 2013). In the South African context (like many other parts of the world) there is also the risk of contracting human immunodeficiency virus (HIV) and this is why rape survivors are routinely tested for HIV as part of the normal procedure after reporting the rape (Adefolalu, 2013).

Independently of rape, South Africa has high levels of HIV prevalence. A 2012 population-based survey estimated that 12.2% of the population are HIV positive, the HIV prevalence in the Eastern Cape is 11.6% and 8.3% in the Nelson Mandela Metropolitan (Shisana, et al., 2014). HIV affects all racial groups, however, black South Africans have the highest HIV prevalence (20.8%) followed by Coloured South Africans (4.9%) (Shisana et al., 2014). With respect to sex and age, the prevalence was highest for females in the 30-34 years age group (36.0%) and males 35-39 years (28.8%) (Shisana et al., 2014). The populations at higher risk of HIV exposure are black South African females between 20-34 years (31.6%) and black South African males between 25-49 years (25.7%) (Shisana et al., 2014). Despite the risk of having HIV, many South Africans are not aware of their status.

According to a survey in 2005, only one out of five South Africans are aware of HIV testing and counselling services available near their homes and 27.6% have been tested for

HIV and knew their results (Peltzer, Matseke, Mzolo, & Majaja, 2009). Only 7.8% had been tested in the 12 months preceding the survey, and had knowledge of their HIV status (Peltzer et al., 2009). According to the above mentioned survey, the population deemed significantly at risk of not knowing their HIV status are individuals from the black South African population, between 15-24 years of age and lower education groups (Peltzer et al., 2009). The researcher was unable to find statistics that specifically consider the prevalence rate of rape survivors' knowledge of their HIV status or the prevalence of HIV among rape survivors specifically. According to Sullivan, Lansky and Drake (2004), individuals, who perceive their risk for having HIV as high, are less inclined to return for their HIV test results than those who perceive the risk of being HIV positive as lower. The reasons provided for not returning for their results are predominantly fear of a positive result, forgetting or being too busy, and the assumption that they would be contacted if the results were positive (Sullivan, Lansky & Drake, 2004).

Gender based violence (which includes rape), PTSD and HIV are all considered public health concerns in South Africa (Bowman, Stevens, Eagle, & Matzopoulos, 2015; Edwards, 2005) and with rape experience, all three elements come to a head in a single individual. Given the public health concern status of HIV and PTSD, it is not surprising that a number of South African studies have examined PTSD in patients diagnosed with HIV (Freeman, Nkomo, Kafaar & Kelly, 2008; Joska, Fincham, Stein, Paul, & Seedat, 2010; Martin & Kagee, 2011; Myer, et al., 2008; Olley, Seedat & Stein, 2006; Olley, Zeier, Seedat, & Stein, 2005; Wingwood, et al., 2008). Findings from these studies are somewhat inconsistent and may be due to problems in conceptualisation of what constitutes a traumatic event. Kagee (2008) offers a cogent argument that many of the stressors, intrusive thoughts and imagery associated with being HIV-positive reflect these individuals' concerns about the future, for example potential illness and death. As traumatisation is a disorder of memory and must

logically follow an event that has already occurred, future-orientated fears do not meet the criteria as a valid PTSD symptom (Kagee, 2008).

One aspect which has not really received any attention in the literature surrounds whether an individual's knowledge of their HIV status is linked to a greater propensity to experience traumatic stress early after a traumatic experience like a rape incident. In terms of rape specifically, exploring the link between early traumatic stress symptoms and knowledge of HIV status makes sense for a number of other reasons. The psychological mechanisms that are implicated in not being tested for HIV such as avoidance, passivity and a greater propensity for experiencing anxiety are also possibly implicated in the development of PTSD (Kliem & Kröger, 2013; LeDoux & Gorman, 2001; van Rooyen, 2015; van Rooyen & Nqweni, 2012). Additionally, both HIV and PTSD can be prevented by early intervention such as post-exposure prophylaxis (PEP) or trauma/crisis intervention and such interventions are imperative with rape survivors (Schleifer, 2004; Vetten, 2015).

High attrition rates are a problem in HIV treatments as well as follow-up interventions for traumatic stress (Najavits, 2015; Vetten & Haffejee, 2008) and it may be that the mechanisms alluded to above are implicated in these attrition rates. Stigma and fear of discrimination related to both HIV and rape, discourage many rape survivors from accessing support services for their traumatic experience as well as possible prevention of HIV infection (Schleifer, 2004). Some rape survivors are reluctant to tell their family or partner about the rape incident they experienced. They may therefore fear that taking home HIV post-exposure prophylaxis treatment and frequently attending follow-up counselling or medical appointments may raise questions from their loved ones. To avoid this, they may default on their treatment and not return for follow-up appointments (Schleifer, 2004). Secondly, many sexual survivors may not access post-rape care in time, because they lack information about HIV treatment and the importance of being tested (Schleifer, 2004). Finally, early

psychosocial interventions for rape survivors are often provided at rape one stop centres by non-professional helpers that are inter alia referred to as crisis counsellors or first responders (Vetten, 2015). While these helpers are mostly trained by non profit organisations, they are usually not qualified to do high level risk prediction for PTSD. Understanding the link between knowledge of HIV status and early traumatic stress symptoms, may provide actuarial risk prediction information that may be useful for such counsellors to accountably inform early detection and referral decisions (van Wyk, 2013).

The purpose of the current analysis was therefore to explore and describe the relationship between knowledge of HIV status, demographic factors and early traumatic stress symptoms of rape survivors[i].

Method

Participants

Sampling site. Rape survivors typically have traumatic stress symptoms and routinely undergo HIV testing as part of the services provided by the Thuthuzela Care Centre (TCC) that participated in this study. Rape survivors who make use of the services offered by an on-site non-governmental organisation (NGO) have disclosed their rape to the police and receive an opportunity to engage in counselling.

Research indicates that only one in 13 women raped by a non-partner and one in 25 women raped by a partner reported the rape to the police (Machisa, Jewkes, Morna, & Rama, 2011). As the majority of rape survivors do not report the incident to the police, it is almost impossible to have a clear understanding of how rape survivors in general experience this traumatic incident and its aftermath. The TCC in Port Elizabeth was found to be the sixth busiest TCC in South Africa between 2012 and 2013, with a monthly average of 108 rape survivors reporting and receiving services at the centre (Vetten, 2015).

In the five month period during which data was collected, approximately 500 rape survivors opened a case of rape at the TCC. All potential participants, excluding those that did not have the capacity to provide informed consent, due to age (<18 years) or mental disability, as well as individuals who were institutionalised at the time (e.g. in correctional services), were invited to participate in the study. Every participant that was approached to be part of the study, agreed to participate. The sample is reasonably representative of individuals with the ability to provide informed consent, who report rape incidents, and return to receive their HIV test results and counselling services at this specific TCC.

Sample. The sample includes 97 adult survivors (18 years and older) of a recent traumatic rape incident. Fifty nine of the 97 participants were between 20-29 years of age, 94 participants were female, 31 were coloured South Africans and 66 were black South Africans, 53 participants had Grade 1-11 education and 44 had Grade 12 or tertiary education. Table I illustrates the comparisons between the TCC's statistics versus the sample of participants who participated in the research study, to demonstrate the sample's representativeness of the rape survivors who reported a rape incident during this time period.

Table I

Comparisons between TCC's Statistics of Cases Opened during Data Collection Period versus the Research Study's Statistics of the Sample

	Statistics from TCC database	Statistics from research study
Reported a rape incident	523	19% (97 participants)
Children under 18 years	49%	n/a
20 - 29 years of age	57%	61%
Females	89%	97%
Black South Africans	73%	68%
Coloured South Africans	23%	32%
Other races	4%	none
Knew HIV status is negative	52%	35%
Knew HIV status is positive	17%	14%
HIV status unknown	32%	51%

Procedures

The study was approved by the Health Sciences Faculty Postgraduate Studies Committee (FPGSC) and the NMMU Research Ethics Committee (Human) (REC-H). Participants were recruited from the TCC which operates from a local governmental hospital. The registered counsellors in training (fieldworkers), completing their practicum at the TCC, who have previously been trained by a psychologist to recruit participants, administered the questionnaire as an interview schedule. This is standard protocol to screen for and monitor traumatic stress symptoms and to monitor their client's progress in counselling as well as the effectiveness of their counselling interventions.

Participants were approached personally by the researcher or other individuals who assist the rape survivors at these centres. During these face-to-face invitations, potential participants were provided with an information letter (Appendix A) explaining the nature of the study and details of participation. Participants who agreed were provided with an informed consent form (Appendix B) and the assessments were then conducted by the researcher or a fieldworker.

The first interview took place 48 hours to one week after the rape incident and included a biographical questionnaire (Appendix C) and an assessment of traumatic stress symptoms using the Harvard Trauma Questionnaire-Revised (HTQ-R) as a structured interview schedule. The participants received immediate feedback regarding their traumatic stress symptoms from the researcher or fieldworker after the assessment. A second assessment took place within one week after the participant received their HIV test results, at which time the participant's traumatic stress symptoms were again measured using the HTQ-R. The findings of this assessment form part of a second article (Chapter 3).

During rape survivors' pre-test counselling their knowledge of their HIV status is routinely gathered. For the purposes of this study participants were not asked to disclose this information again, only requested whether the researcher may access their information that has already been collected in this regard. The signed informed consent forms were linked via a code (reference number) to their questionnaires and kept separate from the questionnaires to ensure anonymity. This means that the interviewer conducting the assessment did not have direct access, or request disclosure of, the participant's HIV status. With the participant's written informed consent, the researcher accessed this information from the TCC's databases, after the assessments were completed.

Measures

Two measures were utilized namely a biographical questionnaire which consisted of demographic information such as age, race and level of education, and Part IV of the HTQ-R. The HTQ-R is a structured interview in checklist form that inquires about traumatic events and PTSD symptoms and was originally developed for Indo-Chinese refugees in America. It consists of four subscales namely: trauma events, personal description, head injury, and trauma symptoms (Mollica, et al., 1992). Only Part IV of the (HTQ-R) was administered as it focuses specifically on trauma symptoms. Part IV comprises 16 items related directly to the symptoms of PTSD as listed in the Diagnostic and Statistical Manual of mental disorders - fourth edition –Text Revision (DSM-IV-TR), since no measures is available based on the Diagnostic and Statistical Manual of mental disorders - fifth edition (DSM-5) criteria for PTSD that has been shown to be valid and reliable in the South African context. According to the HTQ-R manual, an aggregate symptom score of ≥ 2.50 has been scientifically recognized as suitable for the likely presence of PTSD (Mollica, McDonald, Massagli, & Silove, 2004). The HTQ-R requests the participant to report their experience of each item (traumatic stress symptom), in terms of how much it bothered them, on a 4-point likert-scale, including “not at all” (1), “a little” (2), “quite a bit” (3), and “extremely” (4). In the opinion of the researcher, a response of “quite a bit” or “extremely” on an individual symptom could reasonably be considered to be present and salient in the experience of the participant. In line with the ≥ 2.5 average guideline offered in the manual for total scores, for the purpose of this study, an aggregated score of 2.5 or higher on an individual traumatic stress symptom was deemed to be diagnostically significant.

According to Dutton (2013), the HTQ-R has been adapted for use in South Africa and has been demonstrated to have adequate internal consistency, including use with rape survivors. Halvorsen and Kagee (2009) used the HTQ-R to predict the psychological profiles of 143

former South African political prisoners who were torture survivors. Part IV of the HTQ-R obtained an internal consistency of 0.95 in this study (Halvorsen & Kagee, 2009). The HTQ-R has also been used to screen for the occurrence of PTSD in individuals who have been diagnosed with HIV in South Africa (Myer et al., 2008).

Dutton (2013) reported that the HTQ-R Part IV is internally consistent (Cronbach's alpha of 0.87 comparable to the previous 0.95 found by Halvorsen and Kagee, 2009) and that the average item-total correlation is fair (r = 0.30), which indicates that this measure is a reliable measure when used with rape survivors in a South African context. A Cronbach's alpha of 0.69 on the first assessment of the current study, corresponds to Dutton's (2013) and Halvorsen and Kagee's (2009) findings on the internal consistency of the HTQ-R Part IV. Furthermore, in terms of the cross-group equivalence (semantic, metric, and construct equivalence) of the HTQ-R, this measure is considered effective if used as an interview schedule with adult rape survivors in South Africa (Dutton, 2013).

Data Analysis

Descriptive statistics were conducted to describe the demographic characteristics of the sample while Chi-square contingency tests were used to determine comparisons between demographic variables (age, race and education) across the knowledge of HIV status groups (HIV negative, HIV positive and HIV unknown) of the participants. Gender was not used as a demographic variable to determine comparisons across these groups, as there were only three males included in the sample. One-way ANOVAs were performed to compare overall and individual traumatic stress symptoms across the age categories (18-19, 20-29 and 30+). t-Tests were used to compare overall and individual traumatic stress symptoms by race (black and coloured South Africans) and education (Grade 1-11 and Grade 12 & Tertiary). Finally, one way ANOVAs were conducted to determine comparisons on overall and individual traumatic stress symptoms across the knowledge of HIV status groups. Post hoc Scheffé tests

were then conducted on the ANOVA results that were significant, to assess the complex comparisons, as well as Cohen's d tests, to further denote the effect.

Results

Demographic factors in Relation to Knowledge of HIV Status

Tables II to IV present the results of the demographic factors of the sample in relation to their knowledge of their HIV status. Thirty five percent of the participants reported that their HIV status was negative, 14% reported that their HIV status was positive, and 51% reported that they did not know their HIV status (see table II). The mode age was 24.5 years, 53% of participants in this age group reported that their HIV status was unknown. There was no significant difference between the age groups and the previous knowledge of HIV status groups χ^2 (4, N=97) = 8.47, p= .076.

Overall, 55% of black South African participants and 42% of coloured South African participants reported their HIV status to be unknown (see table III). In terms of level of education, 53% of participants who reported their HIV status to be unknown, had a Grade 1 – 11 education and 48% had a Grade 12 or tertiary education (see table IV). There was therefore no significant difference in terms of race or education in relation to participants' knowledge of their HIV status.

Table II

Contingency Table: Age in relation to Knowledge of HIV Status

	Knowledge of HIV Status							
Age	HIV negative		HIV positive		HIV status unknown		Total	
18 to 19	7	44%	0	0%	9	56%	16	100%
20 to 29	21	36%	7	12%	31	53%	59	100%
30 to 58	6	27%	7	32%	9	41%	22	100%
Total	34	35%	14	14%	49	51%	97	100%

Table III

Contingency Table: Race in relation to Knowledge of HIV Status

Race	Knowledge of HIV Status							
	HIV negative		HIV positive		HIV status unknown		Total	
Black	16	24%	14	21%	36	55%	66	100%
Coloured	18	58%	0	]0%	13	42%	31	100%
Total	34	35%	14	14%	49	51%	97	100%

Table IV

Contingency Table: Education in relation to Knowledge of HIV Status

Education	Knowledge of HIV Status							
	HIV negative		HIV positive		HIV status unknown		Total	
Grade 1 – 11	18	34%	7	13%	28	53%	53	100%
Grade 12 & Tertiary	16	36%	7	16%	21	48%	44	100%
Total	34	35%	14	14%	49	51%	97	100%

Traumatic Stress Symptoms in Relation to Age

Table V

ANOVA: Traumatic Stress Symptoms in relation to Age

HTQ-R	Age Category	Mean	Cohen's d
Item 14	18 - 19 20 - 29	1.44 2.24	0.77 Medium
	18 - 19 30 +	1.44 2.27	n/a
	20 - 29 30 +	2.24 2.27	n/a
Overall	18 - 19 20 - 29	2.13 2.32	n/a
	18 - 19 30 +	2.13 2.30	n/a
	20 - 29 30 +	2.32 2.30	n/a

Table V above represent one-way, between groups ANOVAs that were performed on participants' overall and individual traumatic stress symptoms in relation to their age categories. There was no significant difference between the overall traumatic stress symptoms and age categories. On an individual traumatic stress symptom level, however, the results was significant for item 14 ("feeling as if you don't have a future") $f(2, 94) = 4.004$, $p = .021$. A post hoc Scheffé test revealed that there was a medium difference between the means for the 18-19 and 20-29 age categories. Participants between the ages of 20 – 29 experienced significantly more severe traumatic stress on this symptom, compared to the 18-19 age category. This accounted for 2.9% of the variance in scores. The 95% confidence

interval for the 18-19 age category was between 1.10 and 1.77, and between 1.95 and 2.53 for the 20-29 age category.

Traumatic Stress Symptoms in Relation to Race and Education

Tables VI and VII present the results of t-Tests that were used to compare overall and individual traumatic stress symptoms by race and education.

There was no significant difference between the racial groups on overall traumatic stress severity ($t(95) = -0.95$, $p = .343$), however, on an individual traumatic stress symptom level there was a medium difference between black and coloured South African participants on item 10 (“feeling irritable or having outbursts of anger”). This difference was significant, with $t(95) = -2.87$, $p = .005$, indicating that coloured South Africans experienced more severe traumatic stress on this symptom compared to black South African participants (see table VI).

Table VI

t-Tests: Traumatic Stress Symptoms in relation to Race

HTQ-R	Race	n	Mean	S.D	Diff.	t	d.f.	p	Cohen's d
Item 10	Black	66	1.98	1.02	-0.66	-2.87	95	.005	0.62
	Coloured	31	2.65	1.14					Medium
Overall	Black	66	2.25	0.44	-0.09	-0.95	95	.343	n/a
	Coloured	31	2.34	0.47					

Note. n= number of participants, S.D= Standard deviation, Diff.= the difference between the means, t= the value of the t-test statistic, d.f.= degrees of freedom, p= the p-value.

There was also no significant difference between participants in relation to their level of education on overall traumatic stress severity ($t(95) = -0.11$, $p = .915$), however, there was a small difference between participants with a Grade 1 – 11 education and those who have a

Grade 12 or tertiary education, on an individual traumatic stress symptom level (see table VII). The mean for participants who have a Grade 1 – 11 education was 2.42, and 2.93 for participants with a Grade 12 or tertiary education on item 6 (“feeling jumpy, easily startled”). This difference was significant, with t(95) = -2.34, p= .022, indicating that participants with a Grade 12 or tertiary education experienced more severe traumatic stress on this symptom compared to participants with Grade 1 – 11 education.

Table VII

t-Tests: Traumatic Stress Symptoms in relation to Education

HTQ-R	Education	n	Mean	S.D	Diff.	t	d.f.	p	Cohen's d
Item 6	Gr.1-11	53	2.42	1.13	-0.52	-2.34	95	.022	0.48
	Gr.12 +	44	2.93	1.02					Small
Overall	Gr.1-11	53	2.28	0.49	-0.01	-0.11	95	.915	n/a
	Gr.12 +	44	2.29	0.40					

Traumatic Stress Symptoms in Relation to Knowledge of HIV Status

One-way, between groups ANOVAs were performed on participants’ overall and individual traumatic stress symptoms in relation to their knowledge of their HIV status (HIV status reported as negative, HIV status reported as positive, and HIV status reported as unknown). There was no significant difference between the knowledge of HIV status groups in terms of participants’ overall traumatic stress symptoms. However, there were some significant differences between the knowledge of HIV status groups on an individual traumatic stress symptom level. Table VIII and IX present the results of ANOVAs that were used to compare individual traumatic stress symptoms by knowledge of HIV status. Differences were judged on practical significance (Cohen’s d) rather than statistical

significance. Symptoms that (in terms of their means) were clinically/diagnostically salient (in terms of the HTQ-R this means a mean score above 2.5) are discussed separately from those that were not clinically significant (i.e. mean scores less than 2.5). The results for items that were practically significant but not clinically salient (4, 12, 13) are discussed first. These mainly relate to the HIV unknown group.

A post hoc Scheffé test revealed that there was a large difference between the means for the HIV unknown group and the HIV positive group on items 4 (“feeling detached or withdrawn from people”) and 13 (“less interest in daily activities”). Participants who reported their knowledge of their HIV status as unknown, experienced more severe traumatic stress on item 4, $f(2, 94) = 5.150$, $p = .008$, compared to the HIV positive group. This accounted for .008 of the variance in scores. The 95% confidence interval for the HIV unknown group was between 1.65 and 2.35, and 1.00 for the HIV positive group. The HIV unknown group also reported more severe traumatic stress on item 13, $f(2, 94) = 5.150$, $p = .008$, compared to the HIV positive group. This accounted for .006 of the variance in scores. The 95% confidence interval for the HIV unknown group was between 2.07 and 2.75, and between 0.93 and 1.79 for the HIV positive group. There was, however, no significant difference between the HIV unknown group and the HIV negative group on these symptoms.

Post hoc Scheffé tests revealed a medium difference between the means for the HIV unknown and HIV negative groups, as well as a large difference between the means for the HIV unknown and HIV positive groups on item 12,$f(2, 94) = 8.764$, $p < .0005$. Participants who reported their knowledge of their HIV status as unknown experienced more severe traumatic stress on item 12 (“inability to remember parts of the most hurtful or traumatic events”), compared to the HIV negative and HIV positive groups. The 95% confidence interval for the HIV unknown group was between 2.04 and 2.70, between 1.41 and 2.06 for the HIV negative group, and between 0.97 and 1.46 for the HIV positive group.

Table VIII

ANOVA: Individual Traumatic Stress Symptoms in relation to Knowledge of HIV Status (HIV Unknown versus HIV Positive and HIV Negative)

HTQ-R	Knowledge of HIV status	Mean	Cohen's d
Item 4	HIV unknown	2.00	0.93 Large
	HIV positive	1.00	
Item 12	HIV unknown	2.37	0.59 Medium
	HIV negative	1.74	
	HIV unknown	2.37	1.11 Large
	HIV positive	1.21	
Item 13	HIV unknown	2.41	0.95 Large
	HIV positive	1.36	

Items 5 and 16 were also above the clinical threshold of 2.5 in addition to showing practical significant differences. These relate mainly to the HIV positive group. Post hoc Scheffé tests revealed large differences between the mean for the HIV positive groups, as well as between the means for the HIV positive and HIV unknown groups, on both items 5 ("unable to feel emotions") and 16 ("sudden emotional or physical reaction when reminded of the most hurtful or traumatic events"). Participants who reported their HIV status as positive experienced significantly more severe traumatic stress on item 5, $f(2, 94) = 5.007$, $p = .009$, compared to the HIV negative and HIV unknown groups. The 95% confidence interval for the HIV positive group was between 2.06 and 3.37, between 1.53 and 2.18 for the HIV negative group, and between 1.49 and 2.06 for the HIV unknown group. The HIV positive group reported significantly less severe traumatic stress on item 16, $f(2, 94) = 11.781$, $p < .0005$, compared to the HIV negative and HIV unknown groups. The HIV positive

group therefore scored significantly lower on this symptom compared to the HIV negative and HIV unknown groups.

Table IX

ANOVA: Individual Traumatic Stress Symptoms in relation to Knowledge of HIV Status (HIV Positive versus HIV Unknown and HIV Negative)

HTQ-R	Knowledge of HIV status	Mean	Cohen's d
Item 5	HIV positive	2.71	0.87 Large
	HIV negative	1.85	
	HIV positive	2.71	0.91 Large
	HIV unknown	1.78	
Item 16	HIV unknown	2.96	1.54 Large
	HIV positive	1.57	
	HIV negative	2.82	1.27 Large
	HIV positive	1.57	

Discussion

The results of this study suggest that approximately half of rape survivors in this context do not know their HIV status. In terms of demographic factors, there was no significant difference between the participants' age, race or level of education in relation to their knowledge of their HIV status. There was also no significant difference between these demographic factors in terms of overall traumatic stress severity or the majority of the individual traumatic stress symptoms. However, there was a significant difference with a medium effect size between the 18-19 and 20-29 age groups on item 14 ("feeling as if you don't have a future"), a significant difference with a medium effect size between the black and coloured racial groups on item 10 ("feeling irritable or having outbursts of anger"), and a

significant difference with a small effect size between the Grade 1-11 and the Grade 12 or tertiary level of education on item 6 (“feeling jumpy, easily startled”). The researcher can only speculate as to possible explanations for these differences, which may require further investigation. In terms of the lesser concern about the future, it may be that the younger participants may still be living at home and possibly not as concerned about the future yet. The difference between the racial groups’ experiences of irritability and anger outbursts could be attributed to cultural differences that impact emotional expression. To the researcher’s knowledge there is no literature or logical inference that can be made with regards to the difference in level of education on item 6 (“feeling jumpy, easily startled”), however, this difference is small and as previously stated may require further investigation.

The findings of this study indicated that there was no significant difference between the knowledge of HIV status groups on overall traumatic stress severity. On an individual traumatic stress symptom level there were also no significant differences between the knowledge of HIV status groups for majority of the symptoms. However, there were some practical significant differences regarding the HIV unknown group on three specific traumatic stress symptoms, as well as diagnostically/clinically significant findings for the HIV positive group on two specific traumatic stress symptoms. These findings will now be discussed in further detail.

Early Traumatic Stress Symptoms of Participants whose Knowledge of their HIV Status is Unknown

The symptom severity was significantly higher for the HIV unknown group on items 4 (“feeling as if you don’t have a future”), 13 (“less interest in daily activities”) and 12 (“inability to remember parts of the most hurtful or traumatic events”), compared to the HIV positive and negative groups. These symptoms are all markers of the new dissociative subtype in the DSM-5.

According to APA (2013), persistent distorted cognitions about the traumatic event may lead to a diminished interest in significant activities (item 13), and the individual may feel detached from others (item 4). Negative alterations in cognitions may be due to dissociative amnesia, which may result in an inability to remember an important part of the traumatic event (item 12) (APA, 2013). There appears to be a tendency that the HIV unknown group feels more detached or withdrawn from people (item 4), and experiences less interest in daily activities (item 13). According to Lanius et al. (2010), dissociation is a common feature of traumatic stress and entails interruptions in and disintegration of the "functions of consciousness, memory, identity, body awareness, and perception of the self and environment" (p. 640). Decreased interest in daily activities may be indicative of a disruption in the functions of perception of the self and environment. Frewen and Lanius (2006) also marked individuals who had dissociative responses were associated with their reported detached experiences during traumatic memory recall. Feeling detached or withdrawn from people is therefore also related to dissociation.

The significant differences between the HIV unknown group and both the HIV positive and negative groups on item 12 ("inability to remember parts of the most hurtful or traumatic events") was a more prominent finding, as it clearly distinguishes the HIV unknown group from the other two groups on this specific symptom. These results indicate that participants whose knowledge of their HIV status is unknown are significantly more disposed to be unable to remember parts of the most hurtful or traumatic events (item 12), compared to those who knew their HIV status, regardless of whether their knowledge of their status was HIV positive or HIV negative.

According to Werner and Griffin (2012), trauma survivors often report peritraumatic dissociation, which are dissociative responses during or in the acute aftermath of a traumatic event. The survivor's ability to encode and form memories of the traumatic experience is

effected by their peritraumatic dissociative experiences, as it prevents the normal consolidation of memory after the traumatic incident, and these memories then become distorted (Werner & Griffin, 2012). Peritraumatic dissociation is a risk factor for PTSD, but may not necessarily be a predictive factor (Breh & Seidler, 2007). Persistent dissociation after a trauma, however, is a substantial predictor of PTSD. This suggests that what transpires after the trauma, for example persistent dissociation, is more likely to predict the survivor's potential for developing PTSD, than what occurred during the trauma, for example distress (Briere, Scott & Weathers, 2005). The first assessments were conducted within four to seven days after the rape incident and before the participants received their HIV test results. This means that the investigations did not take place within the peritraumatic time-frame; however, participants were requested to report on symptoms they had experienced during the previous week. The reported symptoms therefore include both peritraumatic as well as persistent traumatic stress experiences, which may explain why these participants experienced an inability to remember parts of the traumatic event (item 12).

These findings indicate that all three of the symptoms, that indicated a significant difference between the HIV unknown group and the other two groups (HIV positive and HIV negative), demonstrate a relationship between not knowing one's HIV status and symptoms related to dissociation, after a rape incident. These findings may not be clinically significant in terms of diagnosis, but it does indicate a practical significance that rape survivors who did not know their HIV status are more inclined to experience these altered states of dissociation than those who did know their HIV status (irrespective if that status was positive or negative). It is of course not possible to delineate why this relationship exists within the current results, but it may be that the psychological protective mechanisms involved in dissociation may also lead to individuals not being tested for HIV (or not wanting to know their status).

Early Traumatic Stress Symptoms of Participants whose Knowledge of their HIV Status is Positive

The symptom severity was significantly higher for the HIV positive group on item 5 ("unable to feel emotions") and significantly lower on item 16 ("sudden emotional or physical reactions when reminded of the most hurtful or traumatic events"), compared to the HIV negative and unknown groups. These findings are interesting and diagnostically/clinically significant, as it indicates a clear distinction between the HIV positive group and the other two groups (HIV negative and HIV unknown) on these individual traumatic stress symptoms. A severe inability to feel emotions and limited emotional or physical reactions to trauma reminders, indicate an affective restricted response to the trauma, which means they are experiencing emotion regulation difficulties, more specifically, emotional numbing. According to Frewen and Lanius (2006), some individuals with traumatic stress are not able to adaptively regulate their level of affective arousal in stressful situations, due to the suppression of arousal. This lack of control over their emotional reactions represents emotional numbing symptoms.

Individuals showing evidence of early traumatic stress symptoms tend to experience higher levels of emotion regulation difficulties compared to those reporting early traumatic stress symptoms that are not clinically significant for a PTSD diagnosis (Tull, Barret, McMillan, & Roemer, 2007). Rape survivors, who are living with HIV, may have an inability to manage and regulate affective arousal levels, because of their severe and recurrent trauma exposure (Frewen & Lanius, 2006). According to Brandt, Gonzales, Grover and Zvolensy (2013), there is a significant relationship between emotional dysregulation and anxiety symptoms, in people living with HIV/AIDS. These findings of emotional regulation difficulties are therefore in line with what one would expect to see in a recent traumatic rape survivor who is living with HIV.

Conclusion and Recommendations

Demographic factors did not predict who is at a higher risk for having an HIV positive status or not knowing their HIV status, it also did not predict who is at a higher risk for more severe early traumatic stress in general. However, participants who are between the ages 20-29, coloured, and have a Gr.12 or tertiary education are at a higher risk for more severe traumatic stress on specific individual traumatic stress symptoms. The study also shows that rape survivors who do not know their HIV status are more inclined to experience early traumatic stress symptoms associated with dissociation, compared to those who do know their HIV status. Furthermore, the results indicate that individuals who know their status is HIV positive, have a significant risk for early traumatic stress symptoms associated with emotional numbing after a traumatic rape incident, compared to those who know their status is HIV negative or who do not know their HIV status.

This study does not attempt to make inferences with regards to causality, but the results do indicate an enhanced need to assess for dissociation and emotional dysregulation early after a rape incident, and that those who do not know their HIV status and individuals living with HIV might need more clinical attention, specifically with regards to assessing for these specific symptoms. Early emotional numbing and dissociation are both correlated with early traumatic stress severity and supports the importance of assessing peritraumatic dissociative symptoms as well as persistent dissociation and emotional numbing, after a traumatic rape incident, to help identify those at highest risk for PTSD development.

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[1] The analysis presented here forms part of a larger study that followed up with rape survivors (after receiving their HIV test results) in order to investigate the relationship between receiving an HIV test result and their traumatic stress symptoms. Results of this follow-up are being prepared for publication.

Chapter 3:

(ARTICLE TWO)

The Relationship between Receiving an HIV Test Result and the Traumatic Stress Symptoms of Rape Survivors

Abstract

Research indicates that most trauma survivors are able to overcome their traumatic experiences. However, rape survivors often face a secondary trauma in receiving a human immunodeficiency virus (HIV) test result and not all rape survivors have prior knowledge of their HIV status. They potentially, then have two traumatic events to deal with. Some rape survivors may experience an increase in traumatic stress symptoms after receiving the diagnosis, as this would constitute an additional traumatic experience. This study examines the relationship between receiving an HIV test result and the traumatic stress symptoms of rape survivors. It further explores and compares the symptoms of rape survivors who previously knew their HIV status versus those whose HIV status was unknown. This quantitative study utilised an exploratory descriptive design using the Harvard Trauma Questionnaire-Revised (HTQ-R) to measure the traumatic stress symptoms of 45 South African adult rape survivors. The results indicated that most participants presented with less severe overall traumatic stress after receiving their HIV test results, regardless of their previous knowledge of their HIV status. However, participants who did not know their HIV status and received an HIV positive test result reported more severe overall traumatic stress compared to those who did not know their HIV status and received an HIV negative test result. This HIV status unknown group also reported significantly more severe traumatic stress on specific trauma symptoms. These symptoms could be indicative of two subtypes of trauma responses, including the dissociative subtype and the intrusive and hyperaroused subtype.

Keywords: Dissociation, human immunodeficiency virus (HIV), hyperaroused, intrusive, rape, traumatic stress symptoms

Introduction and Literature Review

A growing body of research exists concerning the symptoms of traumatic stress experienced by rape survivors (American Psychological Association and 51st Session UN Commission on the Status of Women, 2007), as well as the traumatic stress resulting from a diagnosis with a life threatening illness, like human immunodeficiency virus (HIV) (Matacotta, 2010). This study investigates the effect of receiving an HIV test result, either positive or negative, on the traumatic stress symptoms of rape survivors.

Various studies have examined whether experiences related to the confirmation of an HIV diagnosis increase the risk of developing posttraumatic stress disorder (PTSD) (New York State Department of Health AIDS Institute, 2007). These experiences include the threat of physical harm resulting from the threat of illness or death due to opportunistic infection or disease progression (New York State Department of Health AIDS Institute, 2007). However, according to Kagee (2008), the traumatic stressor for PTSD of rape survivors diagnosed with HIV must be the receipt of their diagnosis and not their fear of physical illness and death, as these are events that will occur in the future. Traumatisation is a disorder of memory and it must logically follow an event that has already occurred; therefore fears about future events do not meet the criteria as a valid PTSD symptom (Kagee, 2008). Rape, however, is a traumatic event that has already occurred as opposed to a future fear, and therefore could lead to traumatic stress symptoms.

Although no conclusive statistics are available regarding the incidence of PTSD in the South African population (The South African Depression and Anxiety Group, n.d.), a study on a purposive sample of 37 rape survivors indicated that 100% of the sample experienced significant symptoms of posttraumatic stress (Dutton, 2013). According to the American academy of experts in traumatic stress (2006), PTSD affects hundreds of thousands of people

who have been exposed to violent events such as rape; therefore there is a strong link between PTSD and rape as a traumatic event.

In most cases severe stress reactions are a normal and expected response to a traumatic event, however, persistence of traumatic stress symptoms, or development of PTSD are seen in fewer cases (Foa, Stein & McFarlane, 2006). Most trauma victims are resilient, develop appropriate coping strategies, and use their social support systems to gain an understanding and acceptance of their traumatic experience (Foa, Stein & McFarlane, 2006). In time therefore most trauma survivors become able to continue normal activities and face reminders of their trauma, regardless of the accompanied distress (Foa, Stein & McFarlane, 2006). Research therefore indicates that most trauma survivors are able to overcome their traumatic experience, however, rape survivors often have to potentially face a second traumatic event when receiving an HIV test result.

Research suggests that multiple traumatic events can increase the risk and severity of PTSD symptoms (Breslau, Chilcoat, Kessler, & Davis, 1999; Ahmed, 2007). Furthermore, McFarlane (2010) stated that environmental stress or further trauma exposure, in addition to a traumatic experience, leaves the survivor at risk for progressive activation or delayed onset of dormant PTSD symptoms. It is therefore clear that multiple traumatic events (like rape and receiving an HIV test result) may increase and impact the severity of PTSD (Matacotta, 2010). Rape survivors are routinely tested for HIV as part of the normal procedure after reporting the rape (Adefolalu, 2013). Because not all rape survivors have knowledge of their status, they potentially have two traumatic events to deal with rather than just one. Given that multiple traumatic stressors would generally compound traumatic stress severity (Ahmed, 2007), one would expect that a positive diagnosis would lead to more severe symptomatology.

Through crisis and trauma counselling with rape survivors at a rape crisis centre, the researcher observed that clients presented with a range of traumatic stress symptoms after the traumatic event, but that there was a noticeable change in symptoms after they received their HIV test results. Anecdotal observations indicated that the traumatic stress symptoms of the rape survivors seemed to decrease in severity and fewer traumatic stress symptoms were observed after they were given their HIV test results, regardless of whether these were positive or negative. This is contrary to existing literature, which suggests that multiple traumatic events (like rape and receiving an HIV test result) may increase the risk and severity of PTSD symptoms (Ahmed, 2007; Breslau, Chilcoat, Kessler, & Davis, 1999).

There is a paucity of studies that specifically focus on whether and what impact an HIV test result has on the traumatic stress symptoms of rape survivors, as local and international research does not explicitly explore the relationship between these two frequently co-occurring traumatic events and traumatic stress symptoms. These observations pose the question whether the secondary experience of receiving an HIV test result (positive or negative) perhaps decreases the severity of traumatic stress of rape survivors and whether there is a difference between the traumatic stress symptoms of rape survivors who previously knew their HIV status versus those whose HIV status was unknown to them.

This study explores the number and severity of the traumatic stress symptoms of rape survivors and their knowledge of their HIV status 48 hours to one week after a rape incident, and again within a week after the rape survivors receive their HIV test results. This exploration aims to describe the basic interaction between these factors, to explore the relationship between receiving an HIV test result and their traumatic stress symptoms. Secondly, it aims to describe the difference in traumatic stress symptoms between rape survivors who reported their HIV status as known compared to those who did not know their HIV status, after they receive their HIV test results.

Methodology

Participants

Rape survivors typically meet the criteria for traumatic stress symptoms and routinely undergo HIV testing as part of the services provided by the Thuthuzela Care Centre (TCC). Rape survivors who make use of the services offered by this non-governmental organisation (NGO) have disclosed their rape to the police and receive an opportunity to engage in counselling.

The sample initially included 97 adult survivors (18 years and older) of a recent traumatic rape incident, however, only 45 of the initial 97 participants returned for the second interview. Fifty nine of the initial 97 participants were between 20-29 years of age, 94 participants were female, 31 were coloured and 66 were black Africans, 53 participants had Grade 1-11 education and 44 had Grade 12 or tertiary education. Only 45 participants returned for their HIV test results, follow-up medication and counselling, at which time the second interview took place. The high attrition rate resulted in a relatively small sample to meet the primary aim; therefore, this study is purely exploratory, as the researcher cannot make inferences with regards to causality. Table I presents the 45 participants' previous knowledge of their HIV status and what their HIV test results were. All participants who reported their HIV status as negative (17) received an HIV negative test result, and all those who reported their HIV status as positive (6) received an HIV positive test result. Twenty two participants reported their HIV status as unknown, of which four received an HIV positive test result.

Table I

Contingency Table: Previous Knowledge of HIV Status and HIV Test Result

	HIV Test Result					
Knowledge of HIV Status	Negative		Positive		Total	
HIV negative	17	100%	0	0%	17	100%
HIV positive	0	0%	6	100%	6	100%
HIV unknown	18	82%	4	18%	22	100%
Total	35	78%	10	22%	45	100%

Research indicates that only one in 13 women raped by a non-partner and one in 25 women raped by a partner reported the rape to the police (Machisa, Jewkes, Morna, & Rama, 2011). As the majority of rape survivors do not report the incident to the police, it is almost impossible to have a clear understanding of how rape survivors in general experience this traumatic incident and its aftermath. The TCC in Port Elizabeth was found to be the sixth busiest TCC in South Africa between 2012 and 2013, with a monthly average of 108 rape survivors reporting and receiving services at the centre (Vetten, 2015).

In the five month period during which data was collected, 523 rape survivors opened a case of rape at the TCC. All potential participants, excluding those that did not have the capacity to provide informed consent, due to age (<18 years) or mental disability, as well as individuals who were institutionalised at the time (e.g. in correctional services), were invited to participate in the study. Every participant who was approached to be part of the study, agreed to participate. The sample is reasonably representative of individuals with the ability to provide informed consent, who report rape incidents, and return to receive their HIV test results and counselling services at this specific TCC. The sample in this study is relatively

small and may not be representative of all TCC's in South Africa or all rape survivors in general.

Procedures

The study was approved by the Health Sciences Faculty Postgraduate Studies Committee (FPGSC) and the NMMU Research Ethics Committee (Human) (REC-H). Participants were recruited from the TCC which operates from a local governmental hospital. The registered counsellors in training (fieldworkers), completing their practicum at the TCC, who have previously been trained by a psychologist to recruit participants, administered the questionnaire as an interview schedule. This is standard protocol to screen for and monitor traumatic stress symptoms and to monitor their client's progress in counselling as well as the effectiveness of their counselling interventions.

Participants were approached personally by the researcher or other individuals who assist the rape survivors at these centres. During these face-to-face invitations, potential participants were provided with an information letter explaining the nature of the study and details of participation. Participants who agreed were provided with an informed consent form and the assessments were then conducted by the researcher or a fieldworker.

The first interview took place 48 hours to one week after the rape incident. This time frame is important, as enough time is needed to lapse after the traumatic event, before rape survivors typically present with traumatic stress symptoms. The rape survivors also receive their HIV test results within one week of the HIV test therefore the first interview needed to take place before the rape survivor received their HIV test results. The second interview took place within one week after the rape survivor received their HIV test results.

The first assessment included a biographical questionnaire and an assessment of traumatic stress symptoms using the Harvard Trauma Questionnaire-Revised (HTQ-R) as a structured interview schedule. The second assessment took place within one week after the participant

received their HIV test results, at which time the participant's traumatic stress symptoms were again measured, using the HTQ-R. The participants received immediate feedback regarding their traumatic stress symptoms, from the researcher or fieldworker, after each assessment.

During rape survivors' pre- and post-test counselling their knowledge of their HIV status and HIV test results are routinely gathered. For the purposes of this study participants were not asked to disclose this information again, only requested whether the researcher may access their information that has already been collected in this regard. The signed informed consent forms were linked via a code (reference number) to their questionnaires and kept separate from the questionnaires to ensure anonymity. This means that the interviewer conducting the assessment did not have direct access, or request disclosure of, the participant's HIV status. With the participant's written informed consent, the researcher accessed this information from the TCC's databases, after the assessments were completed.

Measures

The Harvard Trauma Questionnaire-Revised (HTQ-R) is a structured interview in checklist form that inquires about traumatic events and PTSD symptoms and was originally developed for Indo-Chinese refugees in America. It consists of four subscales namely: trauma events, personal description, head injury, and trauma symptoms (Mollica, et al., 1992). Only Part IV of the HTQ-R was administered as it focuses specifically on trauma symptoms. Part IV comprises 16 items related directly to the symptoms of PTSD as listed in the Diagnostic and Statistical Manual of mental disorders - fourth edition –Text Revision (DSM-IV-TR), since no measures is available based on the Diagnostic and Statistical Manual of mental disorders - fifth edition (DSM-5) criteria for PTSD that has been shown to be valid and reliable in the South African context.

According to the HTQ-R manual, an aggregate symptom score of ≥ 2.50 has been scientifically recognized as suitable for the likely presence of PTSD (Mollica, McDonald, Massagli, & Silove, 2004). The HTQ-R requests the participant to report their experience of each item (traumatic stress symptom), in terms of how much it bothered them, on a 4-point likert-scale, including "not at all" (1), "a little" (2), "quite a bit" (3), and "extremely" (4). In the opinion of the researcher, a response of "quite a bit" or "extremely" on an individual symptom could reasonably be considered to be present and salient in the experience of the participant. In line with the ≥ 2.5 average guideline offered in the manual for total scores, for the purpose of this study, an aggregated score of 2.5 or higher on an individual traumatic stress symptom was deemed to be diagnostically significant.

According to Dutton (2013), the HTQ-R has been adapted for use in South Africa and has been demonstrated to have adequate internal consistency, including use with rape survivors. Halvorsen and Kagee (2009) used the HTQ-R to predict the psychological profiles of 143 former South African political prisoners who were torture survivors. Part IV of the HTQ-R obtained an internal consistency of 0.95 in this study (Halvorsen & Kagee, 2009). The HTQ-R has also been used to screen for the occurrence of PTSD in individuals who have been diagnosed with HIV in South Africa (Myer, et al., 2008).

Dutton (2013) reported that the HTQ-R Part IV is internally consistent (Cronbach's alpha of 0.87 comparable to the previous 0.95 found by Halvorsen and Kagee, 2009) and that the average item-total correlation is fair (r = 0.30), which indicates that this measure is a reliable measure when used with rape survivors in a South African context. A Cronbach's alpha of 0.69 on the first assessment of the study and 0.80 on the second assessment, confirmed Dutton (2013) and Halvorsen and Kagee's (2009) findings on the internal consistency of the HTQ-R Part IV. Furthermore, in terms of the cross-group equivalence (semantic, metric, and

construct equivalence) of the HTQ-R, this measure is considered effective if used as an interview schedule with adult rape survivors in South Africa (Dutton, 2013).

Data Analysis

A contingency table presents the overall traumatic stress symptom severity of rape survivors at the first and second HTQ-R assessments. t-Tests were then used to compare overall traumatic stress between the first assessment and second assessment by HIV test results (negative or positive). t-Tests were also used to compare individual traumatic stress symptoms by HIV test results (negative or positive). Finally, t-tests were conducted on individual traumatic stress symptoms to compare the participants who reported their HIV status to be known (HIV positive versus HIV negative), participants who reported their HIV status to be unknown and received an HIV positive or HIV negative test result, and to compare the HIV status known group with the HIV status unknown group. Cohen's d tests were also used to measure the magnitude of the differences between the groups.

Results

Comparisons between First and Second Assessments of Overall Traumatic Stress Severity

Table II presents the symptom severity of participants' overall traumatic stress at the first and second assessments. Twenty three of the participants scored between 2.00 and 2.63, and 11 were indicative of the presence of diagnostically significant symptom severity (above 2.5) at the time of the first assessment. Sixteen of the participants scored between 1.38 and 1.88, and only 9 had diagnostically significant levels of symptom severity at the time of the second assessment. There was a large significant difference (V = 0.59) in the overall traumatic stress symptom severity between the first and second assessment χ^2 (4, N=45) = 31.79, $p < .0005$. The second assessment indicated that participants' overall traumatic stress had decreased significantly after they received their HIV test results. In general there was therefore a

reduction in the overall traumatic stress symptom severity after majority of the participants received their HIV test results.

Table II

Contingency Table: Assessment 1 and 2 of Overall Traumatic Stress

	HTQ-R Assessment 2							
HTQ-R Assessment 1	1.00 to 1.38		1.38 to 1.88		1.88 to 4.00		Total	
1.00 – 2.00	9	64%	2	9%	0	0%	11	24%
2.00 – 2.63	5	36%	16	73%	2	22%	23	51%
2.63 – 4.00	0	0%	4	18%	7	78%	11	24%
Total	14	100%	22	100%	9	100%	45	100%

Note. The class intervals for the first assessment (e.g. 1.00 - 2.00) differ from the class intervals for the second assessment (e.g. 1.00 – 1.38). The interval sizes for each assessment were adjusted to perform a chi-square analysis to determine if there was a significant difference in the overall traumatic stress symptom severity between the first and second assessment.

HIV Test Result and Overall Traumatic Stress

With overall traumatic stress, there was no significant difference between the participants who received an HIV negative test result and those who received an HIV positive test result, on either the first or the second assessments. Participants' HIV test results, whether positive or negative, therefore do not significantly influence their overall traumatic stress severity. These comparisons are presented in table III.

Table III

t-Tests: Assessment1 and 2 of Overall Traumatic Stress Severity by HIV Test Result

Assessment	HIV Test Result	n	Mean	S.D	Diff.	t	d.f.	p (d.f.=43)	Cohen's d
HTQ-R. Assess. 1	Negative	35	2.27	0.42	-0.04	-0.23	43	.822	n/a
	Positive	10	2.31	0.67					
HTQ-R. Assess.2	Negative	35	1.66	0.39	-0.04	-0.24	43	.809	n/a
	Positive	10	1.70	0.55					

Note. Assess.= Assessment, n= number of participants, S.D= Standard Deviation, Diff.= difference between the means, t= the value of the t-test statistic, d.f.= degrees of freedom, p= the p-value

Traumatic Stress of HIV Status Known Groups, HIV Status Unknown Groups and the Difference between these Groups, after Receiving their HIV Test Results.

As previously mentioned, all participants who reported their HIV status as negative received an HIV negative test result, and all those who reported their HIV status as positive received an HIV positive test result. Tables IV and V present the results of t-Tests that were used to compare individual traumatic stress symptoms between these groups (participants who reported their status as HIV negative or HIV positive) and between HIV status unknown groups (participants who reported their HIV status was unknown and then received an HIV negative or HIV positive test result), after the participants received their HIV test results. Table VI present the results of a t-Test that was utilised to compare individual traumatic stress symptoms by HIV status known versus HIV status unknown groups, after the participants received their HIV test results (only significant results are reported).

There was no significant difference between the HIV status known groups on overall traumatic stress severity ($t(21) = 1.80$, $p = .086$), however, there was a significant difference between participants who reported their HIV status as negative and those who reported their HIV status as positive, on an individual traumatic stress symptom level (see table IV). Participants who reported their HIV status as HIV negative, had significantly higher scores on items 1 (“recurrent thought or memories of the most hurtful or terrifying events”), 6 (“feeling jumpy, easily startled”), 8 (“trouble sleeping”), 9 (“feeling on guard”), and 16 (“sudden emotional or physical reaction when reminded of the most hurtful or traumatic events”). They also had significantly less traumatic stress severity on item 15 (“avoiding thoughts or feelings associated with the traumatic or hurtful events”), compared to those who reported their HIV status as HIV positive.

Table IV

t-Tests: Traumatic Stress Symptoms by HIV Status Known Groups (reported HIV Status as Negative or Positive)

HTQ-R	HIV status known	n	Mean	S.D	Diff.	t	d.f.	p	Cohen's d
Item 1	HIV negative	17	2.06	0.75	0.56	2.47	21	.022	1.17
	HIV positive	6	1.50	0.55					Large
Item 6	HIV negative	17	2.41	1.12	1.08	3.33	21	.003	1.58
	HIV positive	6	1.33	0.52					Large
Item 8	HIV negative	17	1.82	1.07	0.66	2.14	21	.045	1.01
	HIV positive	6	1.17	0.41					Large
Item 9	HIV negative	17	1.94	0.97	0.61	2.15	21	.043	1.02
	HIV positive	6	1.33	0.52					Large
Item 15	HIV negative	17	1.47	0.72	-0.70	-2.28	21	.033	1.08
	HIV positive	6	2.17	1.47					Large
Item 16	HIV negative	17	1.88	0.60	0.55	2.94	21	.008	1.40
	HIV positive	6	1.33	0.52					Large
HTQ-R overall	HIV negative	17	1.68	0.46	0.26	1.80	21	.086	n/a
	HIV positive	6	1.43	0.40					

There was a large difference between the HIV status unknown groups on overall traumatic stress severity. The mean for the HIV status unknown group who received an HIV negative test result was 1.64, and 2.11 for those who received an HIV positive test result. This difference was significant, with $t(20) = -3.51$, $p = .002$, indicating more severe overall traumatic stress in the group who reported their HIV status as unknown and received an HIV

positive test result. There was also a significant difference between the HIV status unknown groups on an individual traumatic stress symptom level (see table V). Participants who reported their HIV status as unknown and then received an HIV positive test result, had significantly higher scores on items 5, 9, 11, 12, and 14, compared to those who reported their HIV status as unknown and then received an HIV negative test result.

Table V

t-Tests: Traumatic Stress Symptoms by HIV Status Unknown Groups (reported HIV Status as Unknown and received an HIV Negative or HIV Positive Test Result)

HTQ-R	HIV status unknown	n	Mean	S.D	Diff.	t	d.f.	p	Cohen's d
Item 5	HIV negative	18	1.22	0.43	-1.28	-5.56	20	<.0005	3.08 Large
	HIV positive	4	2.50	1.29					
Item 9	HIV negative	18	1.72	0.83	-1.03	-3.15	20	.005	1.74 Large
	HIV positive	4	2.75	1.26					
Item 11	HIV negative	18	1.28	0.67	-0.72	-2.89	20	.009	1.60 Large
	HIV positive	4	2.00	0.82					
Item 12	HIV negative	18	1.78	0.81	-0.97	-2.85	20	.010	1.58 Large
	HIV positive	4	2.75	1.50					
Item 14	HIV negative	18	1.11	0.32	-0.64	-2.71	20	.013	1.50 Large
	HIV positive	4	1.75	1.50					
HTQ-R overall	HIV negative	18	1.64	0.33	-0.47	-3.51	20	.002	1.94 Large
	HIV positive	4	2.11	0.52					

There was no significant difference between the HIV status known and HIV status unknown groups on overall traumatic stress severity ($t(43) = -1.29$, $p = .205$), however, there

were significant differences between these groups on an individual traumatic stress symptom level (see table VI). The HIV status as unknown group had significantly higher scores on items 7, 12 and 16, compared to the HIV status known group.

Table VI

t-Tests: Traumatic Stress Symptoms by HIV Status Known versus HIV Status Unknown Groups

HTQ-R	HIV status	n	Mean	S.D	Diff.	t	d.f.	p	Cohen's d
Item 7	Known	23	1.22	0.52	-0.56	-4.08	43	<.0005	1.22 Large
	Unknown	22	1.77	0.81					
Item 12	Known	23	1.39	0.66	-0.56	-3.34	43	.002	1.00 Large
	Unknown	22	1.95	1.00					
Item 16	Known	23	1.74	0.62	-0.31	-2.27	43	.028	0.68 Medium
	Unknown	22	2.05	0.72					
HTQ-R overall	Known	23	1.62	0.45	-0.11	-1.29	43	.205	n/a
	Unknown	22	1.73	0.40					

Discussion

The results of this study suggest that most rape survivors in this context present with less severe overall traumatic stress after receiving their HIV test results, regardless of whether they knew their HIV status or not. It is important to keep in mind that this specific TCC provides psychosocial support from initial contact with rape survivors and that approximately half of the initial sample of participants did not return for the second assessment. In the opinion of the researcher, rape survivors who report their traumatic incident at the TCC receive early intervention in the context of a well-run organisation, and these results are

representative of those who do return for follow-up interventions. Comparing basic interactions between rape survivors' knowledge of their HIV status and their HIV test results on an individual traumatic stress symptom level do, however, indicate significant differences.

The findings of the study indicated that there was a significant difference between the HIV status unknown groups. Participants who reported their HIV status as unknown and received an HIV positive test result reported more severe overall traumatic stress, compared to those who reported their HIV status as unknown and received an HIV negative test result. There was also a significant difference on an individual traumatic stress symptom level between the HIV status unknown groups, which show that participants who did not know their HIV status and received an HIV positive test result experienced more severe traumatic stress on specific individual symptoms. These symptoms included items 5 ("unable to feel emotions"), 9 ("feeling on guard"), 11 ("avoiding activities that remind you of the traumatic or hurtful event"), 12 ("inability to remember parts of the most hurtful or traumatic events"), and 14 ("feeling as if you don't have a future").

As previously mentioned the sample was relatively small and random assignment was not possible given logistical constraints. Inferences to rape survivors in other contexts, as well as inferences with regards to causality, may require a larger random sample. Especially with regards to differences between the HIV status known groups (n=17 who received an HIV negative test result and n=6 who received an HIV positive test result) and the differences between the HIV status unknown groups (n=18 who received an HIV negative test result and n=4 who received an HIV positive test result). The overall sample is slightly larger and more equally divided between groups (HIV status known group n=23 and HIV status unknown group n=22). The researcher is confident that the overall sample is representative of this specific context, and does indicate a trend, which will now be explored further.

The results of the study indicated that there was a significant difference between the HIV status known group and the HIV status unknown group on an individual traumatic stress symptom level, but not in terms of overall traumatic stress. Participants who reported their HIV status as unknown had significantly higher scores on items 7 (“difficulty concentrating”), 12 (“inability to remember parts of the most hurtful or traumatic events”) and 16 (“sudden emotional or physical reaction when reminded of the most hurtful or traumatic events”), than those who reported to knowing their HIV status.

Some research suggests that the amnesia symptom, referring to the inability to remember an important aspect or part of the traumatic events (item 12), and greater levels of trauma exposure is an indicator of the new dissociative subtype in the DSM-5 (Miller, Wolf & Keane, 2014). Dissociation symptoms are often observed following exposure to chronic psychological trauma, however, acute traumatic events such as sexual trauma as well as individuals experiencing danger of life threat (like rape and receiving an HIV test result) can also lead to dissociative experiences (Lanius et al, 2010). For example, a number of studies have shown specific peritraumatic dissociative changes, including alterations in attentional focus or difficulty concentrating (item 7) (Lanius et al, 2010). The significant difference between the HIV status known and HIV status unknown groups on these two specific traumatic stress symptoms (item 7 and 12) may therefore be indicative of possible dissociative experiences in rape survivors whose HIV status is unknown, after they receive their HIV test results.

Dissociation is a common feature of PTSD and severe dissociative responses to psychological trauma have been found to predict the development of chronic PTSD (Lanius et al, 2010). “It involves disruptions in and fragmentation of the usually integrated functions of consciousness, memory, identity, body awareness, and perception of the self and the environment” (Lanius et al, 2010, p. 640). Dissociation involves disconnection from the

overwhelming emotional content of the traumatic experience, during as well as after the traumatic event (Lanius et al, 2010). This results in changes in memory coding and storage, leading to fragmentation and compartmentalization of memory, and impaired memory retrieval (Lanius et al, 2010). Information related to the traumatic experiences is often differently encoded during dissociation, this results in difficulty in accessing information about the trauma when the person is no longer in the dissociative state (Lanius et al, 2010). This dissociation and its resulting influence on memory processing may explain why some rape survivors report an inability to remember certain parts of the traumatic event, as in the case of the HIV status unknown group.

Both neurobiological and clinical research shows that there may be two subtypes of trauma response that signify distinctive pathways to chronic or acute traumatic stress-related psychopathology (Lanius et al, 2010). The first is predominantly dissociative, involving over-modulation of trauma-related emotional and somatosensory information. The other subtype is primarily intrusive and hyperaroused, involving a subjective experience of reliving traumatic events, a variety of negative emotional states and associated bodily experiences (Lanius et al, 2010). Individuals with non-dissociative traumatic stress also show the more prototypical response to triggers marked by high levels of emotional reactivity (Miller, Wolf & Keane, 2014). The significant difference between the HIV status known and HIV status unknown groups on item 16 of the HTQ-R assessment (“sudden emotional or physical reaction when reminded of the most hurtful or traumatic events”), may therefore be indicative of possible intrusive and hyperaroused experiences in rape survivors whose HIV status is unknown, after they receive their HIV test results.

These subtypes are, however, not completely distinct and individuals with posttraumatic stress symptoms may present with both response patterns concurrently or at different points in time (Lanius et al, 2010). Both subtypes lead to a change in traumatic stress symptom

profiles and these findings have important implications for treatment of posttraumatic stress, including the need to carefully assess individuals with traumatic stress symptoms for dissociative experiences (Lanius et al, 2010).

Conclusion

The overall traumatic stress of most rape survivors in this context decreases after they receive their HIV test results. Receiving an HIV diagnosis shortly after a rape incident may not increase their overall traumatic stress, although rape survivors who do not know their HIV status are at a higher risk for more severe traumatic stress on an individual symptom level. The sample sizes in this study are too small to make inferences with regards to causality. These exploratory findings do, however, indicate the basic interaction of rape survivors' knowledge of their HIV status, receiving an HIV test result, and their traumatic stress symptoms. The investigation shows that receiving an HIV test result is an additional stressor, especially in rape survivors whose HIV status is unknown, which may require additional attention as this may have an influence on the actual course of traumatic stress symptoms. Further exploration of what would be necessary to change the influence of such an experience would be meaningful.

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CHAPTER 4:

Conclusions, Limitations and Recommendations of Study

The research study explored and described the relationship between rape survivors' early traumatic stress symptoms, their knowledge of HIV status and demographic factors. This exploration served as a supportive aim to the overall aim, which involved an exploration and description of the relationship between receiving an HIV test result (positive or negative) and the traumatic stress symptoms of rape survivors, to compare the traumatic stress symptoms of rape survivors who report their HIV status as unknown versus those who knew their HIV status, after they received their HIV test results. These aims were covered in chapter 2 and 3 (articles 1 and 2), preceded by a literature review and thorough description of the research methodology in the introduction of the study (chapter 1). A summary of the findings will now be discussed in the conclusion and the above mentioned aims will structure this discussion, followed by the limitations and recommendations of the research study.

Early Traumatic Stress Symptoms of Rape Survivors

In the first part of the investigation the link between demographic factors in relation to the participants' knowledge of HIV status as well as their early traumatic stress symptoms was explored and described. The results concluded that there was no particular pattern in terms of demographic factors, such as age, race and level of education that predict which rape survivors would know or would not know their HIV status. There were also no differences in terms of these demographic factors and rape survivors who knew their HIV status is positive versus those who knew their HIV status is negative. In addition the results also indicated that there was no specific risk profile, in terms of the above mentioned demographics, that predict who is at a higher risk for more severe early traumatic stress in general. All rape survivors should therefore receive early intervention, including psycho-social support and HIV pre- and post-test counselling.

The link between early traumatic stress and participants' knowledge of their HIV status was then explored. The findings indicated that there was no significant difference between

the knowledge of HIV status groups on overall traumatic stress severity or on an individual traumatic stress symptom level for majority of the symptoms after disclosure of test results following the rape. However, there were some distinctive trends regarding the HIV unknown group on three specific traumatic stress symptoms, as well as diagnostically/clinically significant findings for the HIV positive group on two specific traumatic stress symptoms.

All three of the significant early traumatic stress symptoms were found to be markers of dissociation in rape survivors who do not know their HIV status. On the other hand, the findings that indicated a clear distinction between the HIV positive group and the other two groups (HIV negative and HIV unknown) provided diagnostically significant levels of symptom severity. These results indicated that the two early traumatic stress symptoms that were found to be significant for the HIV positive group, item 5 ("unable to feel emotions") and item 16 ("sudden emotional or physical reaction when reminded of the most hurtful or traumatic events"), are indicators of emotion regulation difficulties, more specifically, emotional numbing. These findings are in line with what one would expect to find in rape survivors living with HIV, due to their severe and recurrent trauma exposure (Frewen & Lanius, 2006).

These results are consistent with previous findings that traumatic factors such as dissociative responses and added life stress (for example receiving an HIV test result), presenting during or soon after a trauma like rape, are significant predictors of early traumatic stress (Brewin, Andrews & Valentine, 2000). South Africa has high levels of HIV prevalence (Shisana, et al., 2014) as well as frequent occurrences of rape (Atwoli et al., 2013; Machisa, Jewkes, Morna, & Rama, 2011). Many are not aware of their HIV status and those who perceive their risk for having HIV as high, are less inclined to return for their HIV test results (Sullivan, Lansky & Drake, 2004). Individuals who do not know their HIV status as well as those who are living with HIV, and experiencing dissociative and emotional numbing

responses during and after the traumatic incident, are particularly at risk for having more severe posttraumatic stress symptoms.

Receiving an HIV Test Result and the Traumatic Stress Symptoms of Rape Survivors

In the second part of the study, we found that all participants who reported their HIV status as negative (17) received an HIV negative test result, and all those who reported their HIV status as positive (6) received an HIV positive test result. Twenty two participants reported their HIV status as unknown, of which four received an HIV positive test result. The results of the study indicated that most rape survivors in this context present with less severe overall traumatic stress after receiving their HIV test results, regardless of whether they receive an HIV negative or HIV positive test result. The outcome of HIV test results therefore does not seem to influence the overall traumatic stress severity in rape survivors. It is important to keep in mind that this specific TCC (Port Elizabeth TCC) provides psychosocial support from initial contact with rape survivors and that approximately half of the initial sample of participants did not return for the second assessment. These results are therefore representative of those who do return for follow-up interventions.

Conversely, participants who reported their HIV status as unknown and received an HIV positive test result reported more severe overall traumatic stress as well as on individual traumatic stress symptoms, compared to those who reported their HIV status as unknown and received an HIV negative test result. These findings are more in line with what one would expect to see in participants who did not know their HIV status.

In comparing the HIV status known group and the HIV status unknown group, the results indicated that there was a significant difference between these groups on three specific individual traumatic stress symptoms, including item 7 (“difficulty concentrating”), item 12 (“inability to remember parts of the most hurtful or traumatic events”) and item 16 (“sudden emotional or physical reaction when reminded of the most hurtful or traumatic events”), but

not in terms of overall traumatic stress. Two of these specific traumatic stress symptoms (items 7 and 12) were found to be markers of dissociative experiences (Miller, Wolf & Keane, 2014) in rape survivors whose HIV status is unknown, after they receive their HIV test results. The other symptom (item 16) was postulated to be indicative of possible intrusive and hyperaroused experiences in rape survivors whose HIV status is unknown, after they receive their HIV test results (Miller, Wolf & Keane, 2014).

These subtypes are, however, not completely distinct and individuals with posttraumatic stress symptoms may present with both response patterns concurrently or at different points in time (Lanius et al, 2010). Both subtypes lead to a change in traumatic stress symptom profiles and these findings have important implications for treatment of posttraumatic stress, including the need to assess individuals with traumatic stress symptoms for dissociative experiences (Lanius et al, 2010). Dissociation and its resulting influence on memory processing may explain why some rape survivors report an inability to remember certain parts of the traumatic event, as in the case of the HIV status unknown group.

Research indicated that dissociation and emotional numbing prevent the modification of the meaning of the trauma and traumatic memories as well as the maintenance of intrusive memories (Ehlers, 1995), which will cause incomplete processing of the trauma. These factors explain why some rape survivors with early traumatic stress symptoms recover while others' symptoms persist. The literature shows that elaboration of information about the event and its context makes it easier to allow the memory of the event to be recalled intentionally and to restrain triggered retrieval of these memories (Ehlers, Hackman & Michael, 2004). One could speculate that the reason why rape survivors' symptoms change after the second traumatic experience, could be that they are then required to revise the meaning of the rape incident and incorporate the traumatic experience into existing schemas or alternatively developing a new schema when they receive their HIV test results.

The first part of the investigation served as a supportive aim to the overall aim, by exploring early traumatic stress in relation to knowledge of HIV status and demographic factors, before rape survivors receive their HIV test results. This investigation indicated that participants who did not know their HIV status were more inclined to experience symptoms related to dissociation. The second part of the investigation continued to explore these traumatic stress symptoms, after the rape survivors received their HIV test results. These findings indicated that participants who did not know their HIV status were more inclined (than those who knew their HIV status) to experience dissociative symptoms after they received their HIV test results, regardless of whether they received an HIV negative or HIV positive test result. The study therefore indicates that there is a relationship between not knowing one's HIV status and dissociative symptoms, but no inferences with regards to causality can be made, as these rape survivors reported dissociative experiences prior to receiving their HIV test results. It is therefore possible that receiving an HIV test result is not directly correlated with dissociation, but that the combination of the two traumatic events (rape and receiving an HIV test result) may be linked to dissociation.

In overall summary, this study indicates some trends in terms of the influence of receiving an HIV test result on the traumatic stress symptoms of rape survivors. There are issues that require further investigation, but in general the findings suggest that there is a relationship between rape survivors' knowledge of their HIV status and learning of an HIV test result, and that this relationship may show up in terms of specific symptoms and or subtypes. These differences may, however, disappear when overall traumatic stress severity is considered.

Limitations

Limitations of this study will now be discussed. No children were included in the study, which according to the TCC statistics represent 49% of reported cases in the data collection time period. There were not enough males participating in the study. Only three men reported

a rape incident, met the selection criteria, and agreed to participate in the study. According to the TCC statistics, however, only 11% of reported incidents in this time period were male. Only 14 participants in the initial sample reported their knowledge of their HIV status as HIV positive.

The researcher initially aimed to reach a minimum of 20 participants for each of the knowledge of status groups (reported their status as HIV negative or HIV positive) and a minimum of 60 participants who did not know their HIV status, however, this subdivision could not be achieved due to time and resource constraints. Ninety seven participants agreed to participate in the study, of which 34 reported their status as HIV negative, 14 reported their status as HIV positive and 49 participants reported their HIV status to be unknown. According to the TCC statistics, 88 of the 523 rape survivors who reported their incidents during the data collection period knew their status was HIV positive and 145 survivors who reported a rape incident in the data collection period, selected to not receive HIV testing at the TCC, of which 132 reported their HIV status as unknown. The high attrition rate towards the second assessment resulted in a relatively small sample. Only 45 participants returned for their HIV test results, follow-up medication, counselling, and the second assessment. The majority of these rape survivors' overall traumatic stress symptom severity decreased after they received their HIV test results. The overall traumatic stress symptom severity of those who did not return for the second assessment is, however, unknown.

Aside from the small sample size, the study is also purely descriptive and exploratory. No inferences with regards to causality could therefore be made. As the majority of rape survivors do not report the incident to the police, it is difficult to have a clear understanding of how rape survivors that do not report experience this traumatic incident and its aftermath. Finally, peritraumatic dissociation could not be accurately assessed for (and in hindsight this would have been useful), as we could not commence the first assessment during the

peritraumatic time frame, to ensure that participants had the capacity to provide informed consent and avoid undue harm.

Recommendations

This research provides the following suggestions for future research and practice. The results indicate an enhanced need to assess and provide early psychosocial interventions for dissociation in rape survivors who do not know their HIV status, specifically with regards to assessing persistent dissociative symptoms as well as peritraumatic dissociation. It also indicates a significant call for assessing and providing early psychosocial interventions for emotional dysregulation in rape survivors who are living with HIV, specifically with regards to emotional numbing. The research also indicates an explicit need to assess and provide early psychosocial interventions to rape survivors who do not know their HIV status, and then receive an HIV positive test result, specifically with regards to dissociative experiences as well as intrusive or hyperaroused experiences, as it may have an influence on the actual course of traumatic stress symptoms. Further exploration of what would be necessary to change the influence of such an experience would be meaningful.

The research indicated that majority of the rape survivors who returned for follow-up appointments had a decrease in overall traumatic stress symptoms and it must be remembered that early interventions provided at the centre could potentially play a role in this improvement. Previous literature indicates that majority of rape incidents are underreported, moreover the research study shows that more than nearly 50% of the individuals who do report the rape, do not return for follow-up treatment or interventions. This stresses the importance of investigating the reasons for underreporting and high attrition rates in general follow-up. It seems that rape survivors that do report and do follow-up do reasonably well in terms of traumatic stress, but we know very little of the psychological state of those that do not report and do not follow-up. In terms of research and service provision one of the most

important things that could be done for rape survivors in a context that provides psychosocial follow-up is to figure out how to get survivors to come back. Questions that remain are whether the psychological reasons for avoiding reporting, avoiding HIV testing, avoiding counselling and avoiding follow-up are related. Inferences to rape survivors in other contexts, as well as inferences with regards to causality, may require a larger and random sample, but given the procedure employed, a great deal can be done and learnt from routine explorations of all reporting survivors in terms of traumatic stress symptom monitoring and the relationship with demographic and HIV variables.

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Appendix A: Information Letter

Faculty of Health Sciences, NMMU

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Email Principal Investigator (Researcher): landi.stry@gmail.com

August 2014

Contact person: Yolandi Strydom

Ref: H14-HEA-PSY009

Dear participant

My name is Yolandi Strydom and I am a Masters student in Clinical psychology at Nelson Mandela Metropolitan University. To complete my studies, I am doing research about the experiences of rape survivors.

Participation in this study is completely voluntary and if you decide to take part, you are free to withdraw at any time. Your participation or non-participation has absolutely no influence on your case or the help you are receiving at the Rape Crisis Centre or Thuthuzela Care Centre. Participation in this study will require that you answer a questionnaire that will ask you questions about yourself and to attend a follow-up appointment. If you agree to participate and you are already receiving counselling, the questions will be asked by your counsellor during your counselling appointments. There is no foreseen risk or harm involved should you participate in this study. Some of the questions are of a personal nature and a counsellor will be on hand to help you. Your information will be kept completely confidential and every effort will be made to protect your privacy. You will receive individual feedback

after each appointment. Once the research is published a copy of the results will be made available via the centres on your request.

If any questions should arise, please feel free to ask me.

Yours faithfully,

Yolandi Strydom	Mr Kempie van Rooyen	Prof. Diane Elkonin
Researcher	**Main Supervisor**	**Head of Department & Co-Supervisor**

Appendix B

Informed Consent Form

Title of the research project: The relationship between receiving an HIV test result and the traumatic stress symptoms of rape survivors

Reference number: H14-HEA-PSY009

Researcher: Yolandi Strydom

Supervisors: Mr Kempie van Rooyen and Prof Diane Elkonin

Contact details (Researcher): 079 759 2299

Address: PO Box 77000, NMMU, PE, 6031

Participant's ref. no.: (ref. no.)

Declaration by Participant

I, the participant, hereby confirm that I am invited to participate in this research study that is being done by Yolandi Strydom from the Psychology Department of the Nelson Mandela Metropolitan University. My information will be used for academic purposes and for the completion of the researcher's Master's degree in Clinical Psychology. The research results will be stored at the NMMU library and also be presented at conferences if the opportunity arises.

Please sign (the participant):

Full name of participant:

Contact details of participant:

The Following Aspects have been explained to me, the Participant

Aim: The aim of this study is to explore and describe the relationship between receiving an HIV test result (positive or negative) and the traumatic stress symptoms of rape survivors

Procedures: I understand that I will be asked to do the following:

- Participate in a 15 – 30 min discussion with an interviewer to discuss any questions I may have, and fill in my biographical information.
- Complete a 15 – 30 min questionnaire (Harvard Trauma Questionnaire Revised)
- Complete this questionnaire again after receiving my HIV test results.

Risk/benefits: There is no foreseen risk or harm involved in participating in this study. Some of the questions are, however, of a personal nature. I can express any negative feelings to the interviewer who will help me or refer me to a counsellor. My case or treatment at the Rape Crisis Centre or Thuthuzela Care Centre will in no way be affected, whether I decide to participate or not. No tangible benefits will be gained from participating in this study.

Confidentiality: Your information will be kept completely confidential and every effort will be made to protect your privacy.

Voluntary Nature: My participation is voluntary: Yes No

I allow the researcher to have access to information about my HIV status: Yes No

The information above was explained to me by: (name of the person)

I was given the opportunity to ask questions and all these questions were answered to my satisfaction: Yes No

No pressure was used on me to agree to participation and I understand that I may withdraw from the study at any stage: Yes No

Participation in this study will not result in any additional cost to myself

I hereby volunteer to Participate in this Study

Please sign (the participant):

Signed at: (place)

Signed on: (date)

Signature of witness:

Full name of witness:

Statement by Interviewer

Full name of interviewer:

I declare that I have explained the information given in this document to:

(name of participant)

He/she was encouraged and given enough time to ask me any questions Yes No

I have detached "Important Message to the Participant" and handed it to the participant Yes No

Signature of interviewer:

Signed at: (place)

Signed on: (date)

Signature of witness:

Full name of witness:

Important Message to the Participant

Dear participant

Thank you for your participation in this study. Should, at any time during the study

- you need any further information about the study, or
- you experience distress as a result of the questions asked in the interviews

Speak to your interviewer who is trained to deal with crises and distress. If they for some reason cannot help you, they will refer you to the appropriate professional.

The interviewers may contact me, Yolandi Strydom (the researcher), directly in this instance.

Appendix C

Biographical Questionnaire

(To be completed by interviewer)

Reference Number: (ref.nr.)				
Demographic Information				
Age:				
Gender	Male		Female	
Language	English	Afrikaans	isiXhosa	Other
Highest level of schooling / education?(grade/standard)				
Trauma History				
How long ago did the rape incident occur?				
Contact details:				
Tel:				
Cell:				