Risk for traumatization among violent crime victims in an urban community sample in South Africa

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Abstract

This study intended to investigate risk factors for the development of trauma symptoms as a consequence of violent crime in an urban South African community. The sample included 128 adult victims of violent crime chosen by snowball sampling. The adults were 36 (28.1%) males and 92 females (71.9%) in the age range of 18 to 52 years (*M* age 36.6 yr., *SD*=8.9). Results indicate that the most common violent crimes experienced among the participants were rape (attempted rape), followed by physical assault, armed robbery, attempted murder and threat in that order. The majority of the victims scored high on the Kölner Risk Index (for traumatization) – several case examples are given. Analysis of Variance indicated that almost all factors of the Kölner Risk Index seem to be significantly correlated with PTSD outcome measures (PTSS-10, IES-R, Peritraumatic Dissociation and Trauma Belief). It is concluded that the Kölner Risk Index can be a useful tool for identifying crime victims at risk for the development of trauma symptoms, especially in (mental) health care settings.

Introduction

Problem statement

Victimization through crime and related abuses often has not only immediate but long-term effects. The trauma that criminal incidents may cause can have serious repercussions beyond the event itself. Crimes involving violence, such as assault and robbery, may cause extensive physical injuries, even death, or permanent disability (Vetere & Melup 1996: 16). Violent crime is a predominant contributing factor to the development of mental health problems, most commonly posttraumatic stress disorder (Hansen, Kilpatrick, Falsetti & Resnick 1995: 134f.). Several population studies of trauma and PTSD have now been done indicating that, on average a quarter of individuals who are exposed to extreme traumatic stressors that meet criterion A of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association 1994: 424ff.) go on to develop PTSD (Green 1994: 341). For example, Straker, Mendelsohn, Moosa, and Tudin (1996: 51) found with the General Health Questionnaire (GHQ-12) that more than 20% (with a higher cut off score of 6) of the studied South African township youth showed psychopathology associated with PTSD.

A great deal of interest has been recently paid to symptoms and diagnosis that follow exposure to events that are outside of the normal range. Green (1994: 345) proposed that three types of factors are important on such a process. The first category of factors covers the *traumatic event* itself or what objectively occurred to the person in terms of life threat, loss, and so forth, and what role the person played in the event. Two additional types of factors were also seen to contribute to the processing of the particular experience. Individual factors, primarily those, which precede the event, include the person's characteristic defense mechanism and coping styles (Green 1994: 341).

Rationale and research question

However, a PTSD diagnosis is not appropriate in order to diagnose early symptom chronification. Especially, in the initial stages after the traumatic event intrusion and avoidance can be considered as normal or as productive coping with the trauma. These symptoms only become problematic if they do not change over a long time. These limitations are not given with the "Kölner Risk Index" since it assesses factors that occur during or shortly after the traumatic event in order to identify risks for the development of trauma and other symptoms (Fischer & Riedesser 1998: 310ff.). It is important to identify early the chronification for PTSD so that appropriate management can be taken.

Aim

Against this background this study intended to investigate risk factors for the development of trauma symptoms as a consequence of violent crime in an urban South African community.

Objectives

- To identify the extend of chronification and risk for traumatization in a community sample of violent crime victims.
- To determine the association between the risk index of traumatization and different PTSD measures.
- To identify independent predictors for the development of PTSD.

Methods

Sample and procedure

The sample included 128 adult victims of violent crime (which had occurred at least one month ago) chosen by snowball sampling in formerly black areas of Pietersburg in the Northern Province of South Africa. The adults were 36 (28.1%) males and 92 females (71.9%) in the age range of 18 to 52 years (*M* age 36.6 yr., *SD*=8.9). All participants were African/black. Face-to-face interviews were conducted (in English or Northern Sotho) by an experienced psychiatric nurse with further training in trauma counselling. Formal consent was sought and confidentiality assured. Psychological support and services were made available for participants.

Measures

A clinical interview was conducted including sociodemographic data (age, sex, marital status, and religion), crime data (when the crime happened, and the type of violent crime), and the interview-administration of the following measures:

(a) The Kölner Risk Index (see Table 2) (Fischer & Riedesser 1998: 310). The "Kölner Risk Index" was developed with a community sample of victims of violent crime in Germany. The range of the total risk score is from 0 to 17. The higher the score the higher the likelihood that the victim will develop trauma symptoms. The original index included formal education as a protective factor, whereas in this study formal education was positively correlated with being a victim of violent crime (especially rape). Therefore this factor was dropped from the scale. Furthermore, the original scale had a cut off score of 6.4 for increased risk to develop PTSD. In this study a cut off score of 7.5 was calculated as increased risk for the development of trauma symptoms and PTSD.

(b) A Post-Traumatic Symptom Scale (PTSS-10) developed by Holen, Sund and Weisaeth (in Weisaeth 1989: 66), found to be effective in screening out psychiatric risk cases among disaster survivors. The PTSS-10 is a self-report 10-item questionnaire. The respondent was asked to indicate whether he or she had experienced each of the 10 described disturbances. For each item, a yes response was coded as 1 and a no response was coded as 0. Cronbach alpha as well as split-half reliability coefficients for the PTSS-10 were .93 and .88 for this sample.

(c) The Impact of Event Scale – Revised (IES-R; Weiss & Marmar 1997: 408f.) comprises of 22 items: 7 intrusion, 8 avoidance and 7 hyperarousal symptoms. The IES-R measures the presence and intensity of PTSD symptoms and was constructed to map to the DSM-IV symptom definition of PTSD. Adequate reliability and validity of the IES-R in samples of men and women have been documented. Items are rated on a 4-point Likert-type scale from 0=not at all to 4=extremely. Participants were asked to indicate how distressing each difficulty has been during the last 7 days.

The intrusion subscale (range 0-28) measures the intensity of involuntary reexperiencing of the trauma. The avoidance subscale (range 0-32) yields a measure of how strongly the person tries to avoid being reminded of the trauma. The hyperarousal subscale (range 0-28). Cronbach alpha as well as split-half reliability coefficients for the total IES-R were .95 and .91 for this sample.

(d) The Peritraumatic Dissociate Experiences Questionnaire – Self-Report version (Mamar, Weiss, & Metzler 1997: 423ff.) comprises of 10 items, scoring from 1=not at all true to 5=extremely true. It asks for experiences and reactions during and immediately after the traumatic event. Peritraumatic dissociation is considered as a risk factor for chronic PTSD. Cronbach alpha as well as split-half reliability coefficients for the PDEQ were .85 and .72 for this sample.

(e) The Trauma Belief Inventory (Scott & Stradling 1992: 214f.) has 20 items such as "I am worthless and bad" and "I have lost a part of myself" rated from 0=absolutely untrue to 4=absolutely true. Cronbach alpha as well as split-half reliability coefficients for the Trauma Belief Inventory were .78 and .69 for this sample.

The above interview-adminstered risk index and questionnaires were designed in English or German and translated to the local language (Northern Sotho) and back translated by a bilingual expert. Then it was given to two external experts to validate, and they indicated that the instrument is valid. A pilot study was conducted on five violent crime victims to test the reliability of the measures. The same victims (from the pilot study) were asked to respond to the measures after 3 weeks. The responses from the first and second interview were comparable, and this is an indication of the reliability of the measures used.

Results

The violent crime had happened among the participants from 1 to 96 months ago, with a mean of 33.9 months (SD=23.3); among 39 it happened less than one year ago and among the remaining 89 it happened more than one year ago.

The most common violent crimes experienced by the participants were rape (attempted rape), followed by physical assault, armed robbery, attempted murder and threat (and injury with weapon, pistol, knife) in that order (see Table 1). Women had become more often victim of rape (attempted rape) and physical assault than men did, whereas men were more often victimized with armed robbery and attempted murder than women.

The majority of the victims scored high on the Kölner Risk Index, with a total mean of 6.6. About two-third of the participants had experienced more than half an hour trauma exposure and death fear during the crime event, and major bodily harm. More than 20% sustained major injuries with more permanent harm (see Table 2).

Analysis of Variance indicated that almost all factors of the Kölner Risk Index seem to be significantly correlated with

Table 1: Type of crime by gender

Type of crime	Percent	Male	Female
1. Physical assault	23.4	6	24
2. Rape (attempted rape)	34.4	0	44
3. Threat (and injury with weapon, pistol, knife)	4.7	0	6
4. Attempted murder	17.2	12	10
5. Armed robbery	20.3	18	8

Table 2: Kölner Risk Index for traumatization

Indicators	Criteria	Score range	Mean score (SD)
1. Bodily harm	Major bodily harm (with a weapon, robbery), rape kidnapping, etc.=1; minor injury=0	0-1	.58(.50)
2. Life threatening	Life threatening/death fear=2; other=0	0-2	1.60 (.62)
3. Peritraumatic dissociations	-One strong dissociative experience=1 -Many dissoc. exp. but all not so strong=2 -Several strong dissoc. exp.=3 -At least two extreme dissoc. exp.=4	0-4	.99 (1.02)
4. Multiple traumatisation	Other traumatic experiences (lifetime): one=0.3; up to score of 2; if severe early traumatic experience, it can be more	0/0.3-2/3	.63 (.87)
5. Degree of traumatic experience	Rating of 'objective' trauma (summary of 1-2 and 4-9)	0-1	.68 (.90)
6. Length of trauma exposure	More than half an hour in trauma situation=1	0-1	.83 (.38)
7. Negative experiences with institutions	Negative experiences with the police, court, welfare officers, etc.=0.5; if particularly stressful (e.g. if repeatedly mentioned)=1	0/0.5/1	.33 (.76)
8. Negative experiences with people around	For example remarks like one should not be so sensitive or it is one's own fault, etc.=1	0-1	.24 (.33)
9. Major injuries	Major bodily injuries in particular if one can reckon with permanent harm (scars, restriction of bodily movements, etc.)=1	0-1	.21 (.41)
10. Offender known	If offender is known, violence with partner=1	0-1	.47 (.50)
11. Employment status	Unemployment of victim=1	0-1	.56 (.50)

Table 3: ANOVA with the Kölner Risk Index factors and outcome measures

	PTSS	IES-R	Peritraumatic	Trauma belief
Bodily harm	1.448	4.909***	1.698	1.966**
Life threatening	2.425***	6.120***	4.794***	7.426***
Peritraumatic dissociations	4.490***	6.584***	1.705*	5.731***
Multiple traumatisation	2.959***	6.060***	2.310**	3.498***
Degree of traumatic experience	1.358	4.963***	2.307**	3.341***
Length of trauma exposure	3.877***	5.768***	3.868***	1.900*
Negative experiences with institutions	5.890***	3.096***	3.368***	1.141
Negative experiences with people around	8.932***	3.126***	1.670***	1.238
Major injuries	3.054***	5.768***	1.670	3.204***
Offender known	4.303***	3.091***	1.905*	6.088***
Unemployed	2.620***	5.180***	2.970***	3.301***

PTSD outcome measures (PTSS-10, IES-R, Peritraumatic Dissociation and Trauma Belief) (see Table 3).
Bivariate analysis between the total Kölner Risk Index score and outcome measures also indicated that the IES-R, PTSS and Peritraumatic dissociation was positively associated with the Kölner Risk Index score. The Trauma Belief Inventory did not have a significant association with the Kölner Risk Index score (see Table 4).
Stepwise Multiple Regression analysis with the PTSS as dependent variable and all Kölner Risk Index factors indicated in Model 1 that peritraumatic dissociations predict PTSS (Beta=.284, t=3.251, p<.001).
In the following the Kölner Risk Index is applied to different case examples. Some particulars of the cases have been changed in order to insure better anonymity. The cases show how different traumatic events lead to a PTSD.

Case 1:

"It happened four years ago when I was 34 years old. I was on duty and was called to a village. After finishing there I was driving back home and on my way I found a car stopped, just where I am supposed to make a turn. When I slowed down they called me with my name that they need my help. Because it was dark I did not see them but I took for granted that they know me. I stopped and went out of the car, they then started to assault me by kicking me and they shot me on my abdomen plus and minus 8 bullets. They took my wallet with about 350 Rand and fortunately they did not see my cellular phone. They run away thinking that they have killed me but because I was bleeding profusely I only managed to use my cellular phone to contact the police. Fortunately, they responded immediately and called an ambulance. In hospital I had two operations to remove the bullets. I am now confined to a wheelchair but I am back to work and I am able to do many things for myself."

The application of the risk index was as follows:

Indicators	**Criteria**	**Score**
1. Bodily harm	Major bodily harm (with a weapon)	1
2. Life threatening	The situation was life threatening	2
3. Peritraumatic dissociations	Several strong dissociative experiences	3
4. Multiple traumatisation	No history of other traumatic events	0
5. Degree of traumatic exper.	It is assessed as very high	1
6. Length of trauma exposure	The traumatic situation was at least half an hour	1
7. Negative experiences with institutions	None	0
8. Negative experiences with people around	None	0
9. Major injuries	Major injury with permanent harm and confined to wheel chair	1
10. Offender known	Offender not known	0
11. Employment	Still employed	0
Total		9

The total risk was here calculated with a score of 9, which indicates a high likelihood to develop symptoms. This is confirmed with current high scores on the PTSS-10 (36) and the IES-R (61).

Case 2:

"It happened two years ago when I was 24 years old. I was still a student and I had a child with this guy. Everything was fine between us, I was visiting him and he was visiting me and we were planning to get married. But then he came home as usual but then he did not want to go back. When I asked him about his going back to work, he started to be aggressive and accused me that I want him to leave so that I can have freedom with my boyfriends. I stopped asking him in order to avoid quarrels, but he never told me that he is retrenched, and he started to demand money from me and will even assault me if I refuse to give him money. Then I could do some work and I managed to care for my child. One day he assaulted me and locked me in the house so that I could not go to work. I opened a case and requested the police to give him an order. The police came with a court interdict that he should no longer come near me and should leave my room immediately. He went away but after two days he came back. There was a knock at my door and I just opened the door without experiencing that it will be him at the door. He had five liter of petrol and pushed his way in. Then he told me that he can not live without me and that he decided to die and now we are all going to burn in the house. It was about 10:45 in the morning and fortunately my child had gone to school. He started to pour the petrol in the house and furniture. I screamed for help and he put the fire on but I struggled with the door till when I managed to open it. Someone reported the fire and the police and neighbours managed to put off the fire. I sustained

Table 4: Pearson correlation coefficient between the Kölner Risk Index and trauma symptom measures

Variables	**Kölner Risk Index**
PTSS	.179*
IES-R	.349***
Peritraumatic dissociation	.199*
Trauma Belief	.071

10% burns and recovered fast but my boyfriend died after two months in the hospital."

The application of the risk index was as follows:

Indicators	Criteria	Score
1. Bodily harm	Major bodily harm (burns)	1
2. Life threatening	The situation was life threatening	2
3. Peritraumatic dissociations	Several strong dissociative experiences	3
4. Multiple traumatisation	Experienced three other traumatic events	1
5. Degree of traumatic experience	It is assessed as very high	1
6. Length of trauma exposure	The traumatic situation was at least half an hour	1
7. Negative experiences with institutions	None	0
8. Negative experiences with people around	None	0
9. Major injuries	Major burns and permanent scars	1
10. Offender known	Known	1
11. Employment	Employed	0
Total		10

The total risk was here calculated with a score of 10, which indicates a high likelihood to develop symptoms. This is confirmed with current high scores on the PTSS-10 (35) and the IES-R (59).

Case 3:

"It happened one year ago when I was 36 years old. I was asleep and to my shock I was awaken by a man pointing a gun at me telling me that he knows that I have money because my husband had passed away three months ago. I had about two thousand in the house and for my life sake I gave it all to them and they demanded my bankcard with the secrete code. They then packed all my belongings, e.g. household cookery, dinner set, bed linen, TV set, video set, music system – almost everything was packed. They then cut off the telephone and took my cellular phone too as well as my wedding ring. They then took turn in raping me and from there I do not recall anything."

The application of the risk index was as follows:

Indicators	Criteria	Score
1. Bodily harm	Major bodily harm (rape)	1
2. Life threatening	The situation was life threatening	2
3. Peritraumatic dissociations	Several extreme dissociative experiences	4
4. Multiple traumatisation	Experienced one other traumatic event (loss of husband)	1
5. Degree of traumatic exper.	It is assessed as very high	1
6. Length of trauma exposure	The traumatic situation was at least half an hour	1
7. Negative experiences with institutions	None	0
8. Negative experiences with people around	None	0
9. Major injuries	None	0
10. Offender known	Known	0
11. Employment	Employed	0
Total		10

The total risk was here calculated with a score of 10, which indicates a high likelihood to develop symptoms. This is confirmed with current very high scores on the PTSS-10 (56) and the IES-R (77).

Discussion and conclusion

This study has the limitations; chief among them being its retrospective nature and that the sample was only drawn by snowball sampling so that one can not generalize for a larger population. In spite of its limitations, I contend that this study provided important evidence about a link between the Kölner Risk Index (for crime traumatization) and the development of traumatic symptoms.

The finding that peritraumatic dissociations predict PTSS is conform with other literature (Fischer & Riedesser 1998: 303). Foa and Riggs (1994: 287) indicate that another potential mechanism underlying the relation between previous victimization and PTSD is the degree to which the victim uses dissociation as a coping style, thereby hindering emotional processing and increasing psychopathology.

(Mental) health professionals should routinely screen for PTSD among clients who have experienced crimes or other potential traumatic events (Hansen et al. 1995: 151). The Kölner Risk Index (for crime traumatization) can be used for

identifying victims at risk for the development of trauma symptoms. This measure takes 15 minutes to administer and can be especially useful in casuality, psychiatric departments, or psychotrauma or crime prevention hospital units.

Thus, early appropriate psychological management can be given to victims of violent crime. This could be in the form of psychotherapy in order to prevent the chronification to a victimization syndrome but also in non-psychotherapy if the patient is considered at low risk. In the latter case psychological intervention could even disturb the process of self-healing processes (Fischer & Becker 1998: 58). Gilbert (1996: 884) emphasises that primary health care centres in South Africa will have to treat basic trauma efficiently if they have any relevance to the needs of the communities in which they serve. Biehl and Miller (1998: 21) describe a programme addressing domestic violence in South Africa training township women as community workers. Peeke, Moletsane, Tshichula, and Keel (1998: 12) describe the difficulties as working with emotional trauma in a South African community as follows: (1) unreliable community resources, (2) the amounts of trauma workers are exposed to, and (3) the personal impact of being constantly in contact with brutality and violence. Mkhize (1994: 193) proposes that in dealing with mental health problems resulting from violent oppression in South Africa mental health programmes must be centred around strengthening of family life, empowering of communities to promote healing on a wide scale, and developing training schools that incorporate indigenous and Western knowledge. The National Department of Health in South Africa has recently trained nurses in all provinces in order to integrate trauma counselling into primary health care.

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