Chapter

Treating Trauma-related Disorders in Later Life: Moving Forward

Jeannette C.G. Lely and Rolf J. Kleber

Abstract

Among stress-related disorders, post-traumatic stress disorder (PTSD) takes a central position. Although the percentage of older adults suffering from this condition appears to be lower than among younger adults, PTSD among them often presents a serious condition with high comorbidity rates. In this contribution, recent insights into post-traumatic stress disorder among older people as well as psychotherapeutic treatments are discussed. In particular, the results of recently completed investigations are discussed. In this research, treatment outcomes of two psychotherapeutic approaches considered suitable for older PTSD patients (Narrative Exposure Therapy or NET and Present Centered Therapy or PCT) were compared in terms of psychopathology and psychosocial adjustment. For older patients suffering from PTSD with varying backgrounds, both NET and PCT showed the potential for a significant reduction of symptoms (PTSD, depression and subjective distress). Moreover, it was found that older adults can change long-standing beliefs, even after long-past childhood trauma. In a patient's own words: "*I am still here, the past didn't bring me to my knees*". These findings disconfirm unfounded pessimism regarding psychotherapy in later life. Currently available treatment approaches in later life can be meaningful in improving the quality of life in older adults for years to come.

Keywords: older adults, PTSD, post-traumatic stress disorder, psychotherapy, quality of life

1. Introduction

Since the introduction of the latest version of the Diagnostic and Statistical Manual (DSM-5; [1]), Post-Traumatic Stress Disorder or PTSD takes a central position among stress-related disorders. This distressing and demoralizing disorder is triggered by exposure to a life-threatening or terrifying event, experienced in person or witnessed indirectly. The symptoms needed for a diagnosis are summarized as involuntary re-experiencing the adverse event(s), efforts to avoid such intrusive memories, negative cognitions or mood alterations, and increased arousal [1]. Although PTSD is precipitated by exposure to a severe life event, it is not clear

why some people develop PTSD after potentially traumatic events (PTEs), while others do not. Several risk factors have been found, such as prior exposure to (and the number of types of) traumatic events [2], neuroticism, lack of social support or being female [3].

Although the percentage of older adults meeting full diagnostic criteria for this disorder appears to be lower than in younger adults [3, 4], PTSD among them often presents a serious condition [5] with high comorbidity rates [6] and showing a chronic, fluctuating course [7]. As older adults present the fastest-growing segment in the world population, evidence-based treatment approaches are required to address the needs of trauma-affected older populations. After all, PTE's can occur during all stages of life. Moreover, since populations of older adults not only grow in size, but also in life expectancy, trauma-related psychotherapy in later life can be followed by many more years to live.

In older adults, however, the symptoms are often misunderstood as depression, anxiety, somatic illness or memory problems due to aging. Consequently, PTSD has been described as a 'hidden variable' in the lives of older adults suffering from such a confusing array of symptoms [8]. Psychotherapy for older PTSD patients has been found to encounter several more barriers. To start with, long-standing stereotypes regarding older adults' capacity to change present a broadly generalized example of agism (age-related discrimination). Due to Freud's assumptions on psychoanalysis [9], advancing age was long considered a disadvantage in psychotherapy. Furthermore, low recognition of PTSD in primary care [5, 10], the reluctance of older adults to accept services of mental health professionals to deal with their problems [11] and insufficient empirical data [12] play a role. Taken together, in an age of a growing population of older adults, those suffering from PTSD risk receiving less-than-optimally efficacious treatment, which may be considered a research gap as well as a clinical problem challenging both researchers and clinicians.

Regarding trauma-related psychotherapy in later life, recent case studies reported encouraging results [13–15]. Trauma-focused exposure seemed to be well tolerated without adverse effects on comorbid cardiac conditions [16]. Some small controlled studies yielded preliminary positive treatment results for PTSD [17–19], although the small sample sizes did not allow for definitively bridging the research gaps. More robust studies [20, 21] suggested that (variants of) Trauma-Focused Cognitive Behavioral Therapy (TF CBT) can be safely and effectively used with older adult PTSD patients [22]. It must be realized, however, that the generalizability of those conclusions may be limited by the fact that most research has been conducted in Western countries, predominantly among Holocaust survivors or aging male military veterans. In addition, most studies are poorly reflective of the demographic context, as they do not include sufficient participants over the age of 74 [23].

To strengthen the existing evidence, a set of three studies (including a randomized controlled trial or RCT) was conducted, comparing treatment effects for PTSD of two psychotherapeutic interventions in treatment-seeking older adults with PTSD in the Netherlands [24], an exploratory analysis of self-reported symptoms and resilience measures in the same sample [25], and qualitative analysis of cognitions and emotions [26]. A global summary of these studies and their findings will allow for discussing current developments in the field of treating trauma-related disorders in later life.

2. Method

2.1 Participants

Participants enrolled in the RCT and the explorative analysis were recruited from two Dutch mental health centres (Centre'45/Arq and Sinai Centre), which specialized in treating trauma-related disturbances. To capture important age-related challenges and losses in terms of emotional attachment, physical independence and socio-economic setbacks [11], treatment-seeking, community-dwelling out-patients with PTSD aged 55 years and over were accepted for this trial. Participants were enrolled between April 2013 and April 2016. Exclusion criteria involved not meeting full PTSD-IV criteria, changes in psychotropic medication during the study, severe cognitive impairment, high suicide risk, psychosis or bipolar disorder, current substance use disorder and concurrent psychosocial treatment during the study. Half of the sample consisted of native Dutch participants, the other half of resettled refugees from various countries, mainly from the Middle-East. The 33 civilian trauma survivors reported traumatic events including persecution, political, domestic and sexual violence, including childhood abuse. These events took place throughout the life course. The participants' age ranged from 55 to 81 years; a mean age being 63.81 years, SD = 6.8 years; as for the gender distribution, 75% were men. All participants had encountered multiple adverse events. A total of 36.4% of the participants reported childhood trauma, implying Adverse Childhood Events (ACEs) between age 5 to 12; 30.3% reported sexual trauma. The majority (60.6%) of the participants suffered not only from PTSD (DSM-IV; 2000), but additionally from comorbid depression symptoms.

2.2 Interventions

In the first two studies, treatment effects from two well-known psychological interventions were compared: Narrative Exposure Therapy or NET [27] and Present-Centered Therapy or PCT [28].

In NET, TF CBT is embedded in an autobiography, offering a lifespan time-frame for imaginal exposure. Following the introductory session, the therapist and patient collaboratively create a timeline of the patient's life; subsequently elaborating this timeline in the next sessions. The final session allows the patient to receive the documented narration and focus on the future. This short-term treatment approach, which can be disseminated among local para-professional staff, is considered an innovative modification of TF CBT for vulnerable populations in low-resource regions. NET was extensively investigated in various populations of refugees and displaced persons in war- and disaster-affected areas, but also refugees and asylum seekers living in Western countries, demonstrating medium to large effect sizes and low dropout rates [29]. Some of those trials had investigated non-refugees, such as former political prisoners in Romania [17] or Chinese earthquake survivors [30, 31]. The lifespan perspective of NET suggests that this intervention shows high suitability for the population targeted in this trial.

As for PCT, in a trauma-informed context, the focus is explicitly *not* on traumatic content, but on problem-solving of current stressors or maladaptive interactions [28]. This equally innovative approach was developed as a control condition, contrasting the exposure-based technique in TF CBT. PCT, however, appeared to be an efficacious and acceptable stand-alone treatment for PTSD [9]. Just as NET, PCT showed low

dropout rates [9]. Contrary to NET, PCT allows for systematically focusing on current problems associated with PTSD. Following the introductory session, psycho-education explaining the links between trauma and current distress is provided. The next sessions focus on relieving interpersonal and other current stressors. In homework assignments, patients select the relevant issues. Thus, a kind of self-help document is developed. The final session is dedicated to taking stock and looking forward.

2.3 Design, assessments and methods of analysis

The first two studies involved two conditions (NET vs. PCT) and three assessment timepoints (pre-treatment, post-treatment and at 4 months follow-up). Participants were randomly assigned to 11 sessions of NET or 11 sessions of PCT; each session covering 90 minutes.

In study 1 [24], the variables of interest were symptom severity and the symptom clusters (re-experience, avoidance and hyper-arousal) of PTSD (DSM-IV; [32]), using the well-validated Clinician-Administered PTSD Scale (CAPS; [33]). In addition to calculating group means, an individual clinically significant change [34] was rated.

In study 2, capturing the impact of PTSD in patients' daily life, exploratory analyses of self-reported symptoms and several measures of resilience were conducted [25]. This approach allowed patients to report self-reported distress from PTSD (using HTQ; [35]), depression symptoms (BDI-II; [36]), subjective general distress (BSI; [37]), self-efficacy [38], quality of life [39] and finally post-traumatic growth [40].

To enhance the external validity of this research project, inter-session intervals were adapted to patients' preferences and possibilities (weekly or once in 2 weeks). The resulting variation in treatment duration was addressed by advanced statistical analyses, using a (multilevel) piecewise mixed-effects growth model [41] to determine weekly change rates in the outcomes across time (therapy vs. follow-up) and conditions (NET- versus PCT-groups).

Finally, to explore post-traumatic cognitive processing during the treatment process, qualitative patient-reported outcomes were collected in study 3 [26]. This study consisted of the qualitative analysis of trauma narratives and individual interview responses in a subsample of four Dutch participants from the NET condition. All four participants reported multiple ACEs**.** Qualitative data analyses were conducted by using MAXQDA text software [42].

For all studies, methodological quality was addressed by trial registration, approval from the medical ethical committee (Leiden University), conducting a power analysis before starting the studies, randomization, blinding of assessors, protocol adherence, checks of treatment adherence and interrater reliability, and use of independent assessors.

3. Results

In study 1, both NET and PCT were found to be safe and efficacious psychological treatments for older adults suffering from PTSD. Both interventions demonstrated low dropout rates. Markedly, none of the participants in either condition left treatment prematurely because of intolerable stress increase. During treatment, PCT showed a steeper decline than NET for CAPS-scores (all PTSD symptom clusters). In the NET-group, a more gradual symptom decline was observed. This divergence resulted in a significant superiority at post-treatment (Cohen's d = 0.44), which

was considered a medium effect [43]. At follow-up, however, the effects converged due to a partial symptom rebound in the PCT group and a persisting decline in the NET-group. The rebound in the PCT-group mainly involved the symptom clusters of re-experience and avoidance. **Figure 1** presents the outcomes for the PTSD total scale, centred around the post-treatment assessment timepoint.

The mean severity of PTSD symptoms in both groups decreased from severe at the mean timepoint pre-treatment to moderate at the mean follow-up. In addition to focusing on group means, an individual clinically significant change [34] was rated. On the individual level, 71% of NET completers achieved a clinically significant improvement, compared to 50% of the PCT completers.

In study 2, regarding self-rated PTSD, depression symptoms and perceived general distress, both groups (NET and PCT) showed equal, medium to large, within-group effects as well [25]. Whereas resilience (defined in terms of self-efficacy, quality of life, and personal growth) did not significantly improve in either group, it was not compromised, thereby confirming the treatment effects of both interventions.

In study 3, the question was addressed how the benefits of treatment by NET can be understood from a patients' perspective. Posttraumatic changes in thoughts and meanings are supposed to play an important role in recovering from PTSD [44, 45]. To explore cognitive processing during treatment, qualitative patient-reported outcomes were collected by analyzing autobiographic documents and interview responses. Would a cognitive and developmental framework clarify those outcomes? Would aging adults be able to change long-standing posttraumatic feelings and cognitions during treatment? In a sub-sample of NET-participants, the latter question could be answered with a convincing "Yes". The participants involved reported gradual, meaningful changes in self-awareness and self-esteem [24]. "*At the time of the violence in our family, I felt weak, helpless and guilty. Being a child, I was not able to defend my mother! Now I realize that I stood up for her when I was strong enough. Until this day, there is strength and endurance in me.*" Initial self-blame, shame, social alienation and anger gradually gave way to the realization that somebody else had to be blamed, that shame was not appropriate, to new feelings of attachment and rightful anger. In a patient's own words: "*I am still here, the past didn't bring me to my knees*". And: "*With help of the document, I might tell more about myself to my children. Maybe we can have a better time together in the years ahead*". As for the developmental framework, negative cognitions were associated with

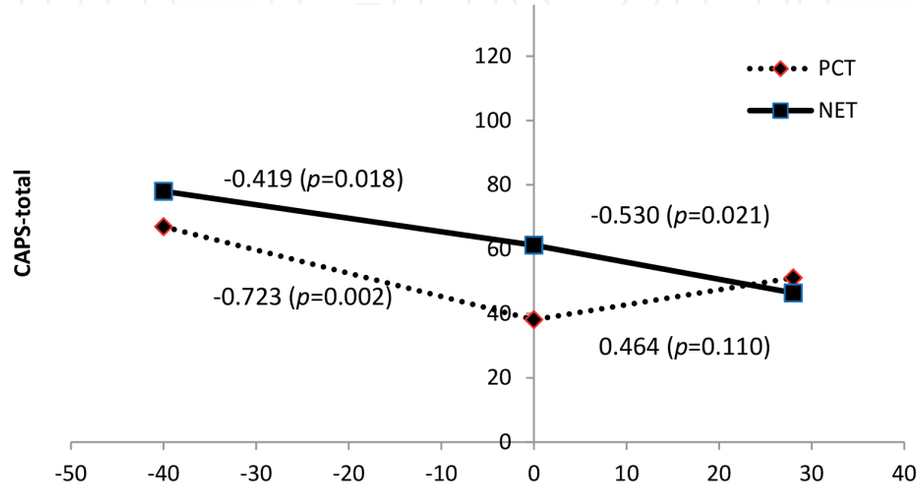

Figure 1.
RCT outcomes of CAPS-total [24].

traumatic episodes, retaining a strong centrality in emotional life. New contexts and relationships, however, offered opportunities for more self-asserting cognitions alongside the self-defeating ones. "*Learning the craft of cabinet-making helped me finding my own strengths and reconnecting to people*."

Pulling together the strings from the presented studies, the short-term treatment effects of the PCT-group exceeded those in the NET-group. Nevertheless, this superiority was lost at follow-up. The within-group treatment effects in the NET-group were found to extend beyond PTSD, drawing depression symptoms and general distress into the scope of recovering from PTSD. Resilience, quantitatively measured, did not show significant responses for either group. In other words, compared with NET, the PCT-group showed significantly stronger short-term reductions in PTSD pathology (study 1), whereas this group did not show significantly improved resilience, neither comparatively, nor longitudinally (Study 2). The qualitative analysis, however, showed gradual cognitive and emotional changes on a personal level, reflecting the processing of adverse events and regaining self-esteem and initiative.

4. Discussion

Taken together, the main findings of these studies suggest that both trauma exposure (NET) and a trauma-informed present-centred approach (PCT) are safe and effective interventions for older adults and that posttraumatic recovery in later life extends beyond clinician-rated PTSD symptoms, including mood and subjectively perceived distress as well. Moreover, older adults can change long-standing beliefs, even after long-past childhood trauma.

5. Strengths and limitations

To reflect the impact of PTSD symptoms on daily life, the presented studies were characterized by a broad approach to the subject of treating trauma-related disorders in later life. Consequently, PTSD, comorbid depression and several measures of resilience were included in the analyses. An additional strength is the multimethod approach of this research project. The studies used advanced and variable methods of analysis. A third strength is the controlled comparison of treatment response in two innovative psychotherapeutic interventions for PTSD in a sample of older adults. The interventions had contrasting treatment approaches: imaginal exposure (focusing on the past) versus a focus on problem-solving in the present. The resulting response patterns may provide a useful tool for clinicians to discuss treatment preferences with their patients. The equal efficacy at follow-up might be an important attribution to ongoing discussions concerning the necessity of exposure in trauma treatment [46]. The clinical meaningfulness of the results was increased by the inclusion of a heterogeneous sample of civilians, including both native Dutch civilians and refugees. In addition, the participants were allowed to determine session intervals in accordance with their preferences and possibilities. Advanced statistical analyses addressed the resulting variability of inter-assessment intervals. Within a clinical environment, methodological rigor was addressed by randomization, protocol adherence, checks of treatment adherence and interrater reliability, and the use of independent assessors.

Some limitations merit attention as well. The participants' mean age does not allow for generalizing the research findings to old age (over age 74). By using the 55 years

limit, however, clinically important transitions could be captured and enough participants could be recruited to reach a sufficiently powered sample for the RCT on PTSD. Nevertheless, the study sample was small and mainly representative for the so-called young-old (ages 55 to 75), as distinguished [47] from the old-old (75 and over). In addition, out of fear of high dropout and concurrent influences in the follow-up interval, a short follow-up interval was chosen. In future research, a longer follow-up interval is strongly advisable. Therefore, the research findings from these studies have to be interpreted with caution. They can contribute, however, to ongoing discussions in the field of treating trauma-related disorders in later life, focusing on current issues and controversies, lessons learnt and future research. These topics will receive more attention in the following paragraphs.

6. Issues and controversies

6.1 Does age matter?

Reflecting the heterogeneity and etiological complexity of mental health in old age [48], a broad range of measures and a multimethod approach was selected in the presented studies. About late adulthood and young-old age, several questions were addressed. To begin with: Would advancing age matter in terms of treatment response? Meta-analytic findings on NET [29] did not support this hypothesis. Furthermore, in a recent study including 2578 adults – aged from 18 to 80 years [49], the single factor limiting treatment response in all outcomes was found to be the number of traumatic events, confirming the established dose-response correlation of higher trauma exposure and elevated PTSD symptom severity [2, 50]. Taken together, advancing age does not matter in terms of treatment response. In terms of etiological complexity and of biographical and historical context, however, age is highly influential, requiring historical sensitivity and detailed curiosity from therapists.

6.2 Past or present?

Like all exposure-based treatments, NET addresses the way patients cognitively cope with past events. The treatment strategies of NET have been described as reorganizing memories and restoring narrative continuity and coherence [27]. In the RCT comparing NET and PCT, present-centred therapy (PCT) served as an active comparator. PCT focuses on the present: coping with concurrent stressors, maladaptive interaction patterns and learning solution-focused techniques [9]. In addition to this contrast, there are similarities as well. Both 'dealing with the past' and 'coping with present stressors' refer to (cognitive and emotional) coping with either distressing memories and meanings or maladaptive behavior patterns. Similar considerations might be valid regarding other comparisons, such as Prolonged Exposure versus Relaxation training [51]. The conclusion might be that engaging in such a process in a therapeutic relationship allows for changing both kinds of coping. Patient-reported outcomes suggested a gradual shift in cognitions and emotions, not quite resulting in the complete extinction of old feelings, but expanding the patients' experiential repertory.

Since treatment changes in NET and PCT are found to be more similar than assumed, their direct comparison calls for close attention. The results of the RCT show that both approaches are safe and effective. Unexpectedly, at follow-up, NET and PCT

show equal efficacy. Apparently, in this population dealing with the past and coping with the present show equal importance. Remarkably, change in terms of PTSD symptoms took place at a different pace per intervention. The gradual symptom decrease in the NET-group can be understood as an effect of the taxing exposure in NET. In contrast to the response pattern of PCT, the symptom decline in NET continued after treatment. This difference might be related to different learning strategies in both interventions. It could be suggested that increased coherence and habituation are more internalizing processes than problem-solving techniques, leading to more sustainable treatment results. The continuous symptom decrease in the NET-group tantalizingly suggests a further decline beyond the follow-up interval used and calls for a replication of the comparison with a longer follow-up interval. Meta-analytic findings regarding persisting within-treatment effects in NET justify such suggestions [29].

7. Clinical and research implications

Clinically, the importance of patient preferences for this population is illustrated. Some patients did not accept randomization, because they needed to tell their stories and did not accept any uncertainty about the possibility to do so. Following patient preferences can enhance treatment motivation, without, on the other hand, blindly following avoidance-based wishes. Regarding treatment outcome, in patients with chronic PTSD and comorbid depression, treatment matching was found to improve treatment response [52]. Careful information and preparation of treatment choices are necessary to reach shared decisions. Regarding further research, the findings of the RCT call for replication in a larger sample, including older age groups, and a longer follow-up interval.

8. Pathology and resilience

Both NET and PCT were found to be safe and efficacious treatments reducing PTSD symptoms in older adults suffering from PTSD. Compared with NET, the PCT-group showed significantly stronger short-term reductions in PTSD pathology, whereas this group did not show significantly improved resilience, neither comparatively, nor longitudinally. Nevertheless, the study findings suggest that posttraumatic recovery in later life extends beyond reductions in re-experiencing, avoiding and arousal symptoms, adding nuance to the current centrality of PTSD symptoms [53]. One might say that the current concept of PTSD in DSM-5 (including depression symptoms in the diagnostic criteria of PTSD), already reflects this nuance. These findings may inspire further research on resilience factors, both in individual and community contexts.

9. Lessons learnt

In addition to the described issues, several observations merit attention. Older adults suffering from PTSD report serious impairments in daily life. The presented studies show that patients who gain access to treatment can achieve a clinically significant treatment response. As for NET, the qualitative analysis showed that during and after treatment, renewed personal growth is found to be within reach for older adults,

just as for younger patients. This renewed growth can be a sign of returning strength and vitality, notwithstanding residual symptoms. Even in later life, the taxing procedure of NET did not prevent significant symptom reductions, rendering credibility to interpreting treatment changes as results of cognitive and emotional reprocessing, without, however, ruling out the influence of the patient-therapist relationship.

Another observation refers to the age in terms of a remaining lifetime. Rapidly expanding life expectancies imply that improved quality of life after treatment offers new perspectives on potentially many more years of a satisfactory quality of life. This awareness may offset negative cognitions concerning the usefulness of treatment in later life. In these years, some patients hope for a new understanding between parents and children or grandchildren, potentially correcting existing intergenerational transmission of maladaptive interaction patterns [54]. In clinical practice, such intentions might call for careful preparation and timing, since self-disclosure of painful memories might evoke unexpected family dynamics. "*Wishing to be honest about my past experiences, I simultaneously fear the consequences. Will my children believe me? What will they think of me, and of my tormentor, who is one of their grandparents after all?*"

10. Treating trauma-related disorders in later life: moving forward

10.1 Treatment barriers

Psychological treatment for older adults has been characterized by several barriers: myths about older adults' incapacity to change, low recognition of PTSD in primary care, the reluctance of older adults to use the services of mental health services for solving their problems and a limited body of evidence concerning trauma-focused treatment for older adults [12, 17, 21, 46]. Without addressing these barriers, older adults with PTSD will not gain access to treatment. By showing the potential of psychotherapy with older adult PTSD patients to achieve clinically meaningful results (both with NET and PCT), without compromising resiliency, the presented studies addressed the latter barrier.

10.2 Adapting treatment formats

Previously, age-specific modifications for standard treatments were proposed, such as increasing the structure of treatment, utilizing memory aids and simplifying materials [55]. These modifications mainly refer to form: i.e., the way in which treatment and its environmental conditions are personalized in response to patients' individual needs. These adaptations do not appear to exceed adequate personalization of treatment in general. The present research does not call for conceptually changing current treatment protocols when treating older adults. Full information and careful psycho-education have been found to prepare senior participants sufficiently for their treatment, either including direct trauma exposure or focusing on current stressors. As for treatment duration, extension was not considered to be justified. In treatment modules of 11 sessions, at least half of the participants achieved clinically meaningful treatment changes for PTSD symptoms. When addressing specific symptoms, such as traumatic grief, trauma-related systemic problems or nightmares, alternative interventions may be considered, such as Brief Eclectic Psychotherapy for traumatic grief or BEP-TG [56], interpersonal therapy [52], or imaginary rehearsal therapy [57].

In case of persisting maladaptive cognitions, schema therapy – found to be safe and effective with older adults - might serve as a sequel treatment [58].

11. Future research

Future research calls for rigorous research methodology to be integrated in clinical-service provisions in ways that mutually improve both research and clinical practice [59]. Routinely assessing adverse childhood experiences by using the ACE (Adverse Childhood Events) Questionnaire (World Health Organization; WHO [60]) may support patients in better understanding their current health problems. Even if such experiences are initially denied, patients may hear the message that talking in therapy about such issues is acceptable. Since both age-related changes and PTSD symptoms can include attention and memory problems, cognitive functioning should be routinely assessed as well [61]. Extending routine assessments with cognitive and physiological measures (blood pressure or heart rate) could provide additional evidence on risks and outcomes of psychotherapy in older adults [22, 46]. Furthermore, directly comparing trauma-related psychotherapy with pharmacotherapy for older PTSD patients could improve treatment matching. Moreover, e-health applications for assessment and/or treatment (the timeline in NET or homework assignments in PCT) could bring interesting innovations and inspire yet further research. Summarizing, this field of research is still in its infancy and calls for expanding the scope of research. In particular, founding research sites outside Western countries and reaching new target populations will encourage researchers and clinicians in this fascinating field to move forward.

12. Treating trauma-related disorders in later life: in conclusion

For senior PTSD patients, both Narrative Exposure Therapy and Present Centered Therapy show the potential to significantly reduce symptoms of PTSD and related problems, whereas resilience factors are not compromised by either treatment procedure, Furthermore, gradual changes in posttraumatic feelings and cognitions mirror increasing self-esteem and initiative, implying that older adults can change long-standing self-related beliefs, even after long-past childhood trauma. These findings allow for three conclusions. First, whereas PTSD may be described as a hidden variable in the lives of older adults, their strength and flexibility are shown to be hidden factors in their recovery process. Second, psychological treatment in later life may be meaningful for years to come. Third, pessimism concerning the treatment of older adults with trauma-related psychopathology is unfounded. By overcoming these ungrounded convictions, treating trauma-related disorders in later life is coming of age.

Treating Trauma-related Disorders in Later Life: Moving Forward
DOI: http://dx.doi.org/10.5772/intechopen.102499

Author details

Jeannette C.G. Lely[1]* and Rolf J. Kleber[2,3]

1 ARQ Centrum'45, The Netherlands

2 Department of Clinical Psychology, Utrecht University, Utrecht, The Netherlands

3 ARQ National Psychotrauma Centre, Diemen, The Netherlands

*Address all correspondence to: j.lely@centrum45.nl

References

[1] American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Fifth ed. Washington, DC: APA; 2013

[2] Kolassa IT, Ertl V, Eckart V, Kolassa S, Onyut LP, Elbert T. Spontaneous remission from PTSD depends on the number of traumatic event types experienced. Psychological Trauma: Theory, Research, Practice and Policy. 2010;**2**:169-174

[3] Van Zelst WH, de Beurs E, Beekman ATF, Deeg DJH, van Dyck R. Prevalence and risk factors of posttraumatic stress disorder in older adults. Psychotherapy and Psychosomatics. 2003;**72**:333-342. DOI: 10.1159/000073030

[4] Reynolds K, Pietrzak RH, Mackenzie CS, Chou KL, Sareen J. Post-traumatic stress disorder across the adult lifespan: Findings from a nationally representative survey. The American Journal of Geriatric Psychiatry. 2016;**24**(1):81-93. DOI: 10.1016/j.jagp.2015.11.001

[5] Van Zelst WH, de Beurs E, Beekman ATF, van Dijck R, Deeg DJH. Well-being, physical functioning, and use of health services in the elderly with PTSD and subthreshold PTSD. International Journal of Geriatric Psychiatry. 2006;**21**:180-188. DOI: 10.1002/gps.1448

[6] Kang B, Xu H, McConnell ES. Neurocognitive and psychiatric comorbidities of posttraumatic stress disorder among older veterans: A systematic review. International Journal of Geriatric Psychiatry. 2019;*34*(4):522-538. DOI: 10.1002/gps.5055

[7] Chopra MP, Zhang H, Pless Kaiser A, Moye JA, Llorente MD, Oslin DW, et al. PTSD is a chronic, fluctuating disorder affecting the mental quality of life in older adults. American Journal of Geriatric Psychiatry. 2014;*22*(1):86-97. DOI: 10.1016/j.jagp.2013.01.064

[8] Nichols BL, Czirr R. Post-traumatic stress disorder: Hidden Syndrome in Elders. Clinical Gerontologist: The Journal of Aging and Mental Health. 1986;**5**(3-4):417-433. DOI: 10.1300/J018v05n03_12

[9] Freud S. On Psychotherapy. London: Hogarth Press; 1905

[10] Ehlers A, Gene-Cos N, Perrin S. Low recognition of posttraumatic stress disorder in primary care. London Journal of Primary Care (Abingdon). 2009;**2**:36-42

[11] Laidlaw K, Thompson LW, Dick-Siskin L, Gallagher-Thompson D. Psychotherapy with older adults. In: Laidlaw K, Thompson LW, Dick-Siskin L, Gallagher-Thompson D, editors. Cognitive Behaviour with Older Adults. Chichester: Wiley; 2003

[12] Böttche M, Kuwert P, Knaevelsrud C. Posttraumatic stress disorder in older adults: An overview of characteristics and treatment approaches. International Journal of Geriatric Psychiatry. 2012;**27**:230-239. DOI: 10/1002/gps.2725

[13] Curran B, Collier E. Growing older with post-traumatic stress disorder. Journal of Psychiatric and Mental Health Nursing. 2016;**23**:236-242. DOI: 10.1111/jpm.12280

[14] Mørkved N, Thorp SR. The treatment of PTSD in an older adult Norwegian

woman using narrative exposure therapy: a case report. European Journal of Psychotraumatology. 2018;**9**(1):1414561. DOI: 10.1080/20008198.2017.1414561

[15] Reuman L, Davison E. Delivered as described: A successful case of Cognitive Processing Therapy with an older woman veteran with PTSD. Cognitive and Behavioral Practice, Advance Online Publication. 2021. DOI: 10.1016/j.cbpra.2021.06.004

[16] Chopra MP. PTSD in late life: Special issues. Psychiatric Times, Geriatric Psychiatry, part. 2018;**3**:1-10

[17] Bichescu D, Neuner F, Schauer M, Elbert T. Narrative exposure therapy of political imprisonment-related chronic posttraumatic stress disorder. Behaviour Research and Therapy. 2007;**45**(9):2212-2220. DOI: 10.1016/j.brat.2006.12.006

[18] Gamito P, Oliveira J, Rosa P, Morais D, Duarte N, Oliveira S, et al. PTSD Elderly War Veterans: A Clinical Controlled Pilot Study. Cyberpsychology, Behavior and Social Networking. 2010;**13**(1):43-48. DOI: 10.1089/cyber.2009.0237

[19] Ready DJ, Gerardi RJ, Backschneider AG, Mascaro N, Olasov Rothbaum B. Comparing Virtual Reality Exposure Therapy to Present-Centered Therapy with 11 U.S. Vietnam Veterans with PTSD. Cyberpsychology, Behavior and Social Networking. 2010;**13**:49-54. DOI: 10.1089=cyber.2009.0239

[20] Knaevelsrud C, Böttche M, Pietrzak RH, Freyberger HJ, Kuwert P. Efficacy and feasibility of a therapist-guided internet-based intervention for older persons with childhood traumatization: A randomized controlled trial. The American Journal of Geriatric Psychiatry. 2017;**25**(8):878-888. DOI: 10/1016/j.jagp.2017.02.024

[21] Thorp SR, Wells SY, Cook JM. Trauma-focused therapy for older adults. In: Gold SN, editor. APA Handbook of Trauma Psychology: Trauma Practice. Washington DC, USA: American Psychological Association; 2017. DOI: 10.1037/0000020-020

[22] Cook JM, McCarthy E, Thorp SR. Older adults with PTSD: Brief state of research and evidence-based psychotherapy case illustration. American Journal of Geriatric Psychiatry. 2017;**25**(5):522-530. DOI: 10.1016/j.jagp.2016.12.016

[23] Pless Kaiser A, Cook JM, Glick DM, Moye J. Posttraumatic stress disorder in older adults: A conceptual review. Clinical Gerontologist. 2019;**4**(42):359-376. DOI: 10.1080/07317115.2018.1539801

[24] Lely JCG, Knipscheer JW, Moerbeek M, ter Heide FJJ, van den Bout J, Kleber RJ. Randomised controlled trial comparing Narrative Exposure Therapy with Present-Centered Therapy for older Patients with post-traumatic stress disorder. British Journal of Psychiatry. 2019;**214**(6):369-377. DOI: 10.1192/bjp.2019.59

[25] Lely JCG, ter Heide FJJ, Moerbeek M, Knipscheer JW, Kleber RJ. Psychopathology and resilience in older adults with Posttraumatic Stress Disorder: A randomized controlled trial comparing. Narrative Exposure Therapy and Present-Centered Therapy. European Journal of Psychotraumatology. 2022;**13**(1). DOI: 10.1080/20008198.2021.2022277

[26] Lely JCG, de la Rie SM, Knipscheer JW, Kleber RJ. Stronger than my ghosts: A qualitative study on cognitive recovery in later life. Journal of Loss and Trauma. 2019;**24**(4):369-382. DOI: 10.1080/15325024.2019.1603008

[27] Schauer M, Neuner F, Elbert T. Narrative Exposure Therapy. A Short-term Intervention for Traumatic Stress Disorders after War, Terror or Torture. 2nd expanded ed. Göttingen: Hogrefe & Huber Publishers; 2011

[28] McDonagh A, Friedman M, McHugo G, Ford J, Sengupta A, Mueser K, et al. Randomised trial of cognitive behavioral therapy for chronic post-traumatic stress disorder in adult female survivors of childhood sexual abuse. Journal of Consulting and Clinical Psychology. 2005;**73**(3):515-0524. DOI: 10/1037/0022.006X.73.3.515

[29] Lely JCG, Smid GE, Jongedijk RA, Knipscheer JW, Kleber RJ. The effectiveness of narrative exposure therapy: a reviewmeta-analysis and meta-regression analysis. European Journal of Psychotraumatology. 2019;**10**(1):1550344. DOI: 10.1080/20008198.2018.1550344

[30] Zang Y, Hunt N, Cox T. A randomised controlled pilot study: The effectiveness of narrative exposure therapy with adult survivors of the Sichuan earthquake. BMC Psychiatry. 2013;**13**(41):1-11. DOI: 10.1186/1471-244X-13-41

[31] Zang Y, Hunt N, Cox T. Adapting narrative exposure therapy for Chinese earthquake survivors: A pilot randomised controlled feasibility study. BMC Psychiatry. 2014;**14**(262). DOI: 10.1186/s12888-014-0262-3

[32] American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (Text Revision). Washington, DC: APA; 2000

[33] Blake DD, Weathers FW, Nagy LM, Kaloupek DG, Gusman FD, Charney DS, et al. The development of a clinician-administered PTSD scale. Journal of Traumatic Stress. 1995;**8**(1):75-90

[34] Schnurr PP, Friedman MJ, Foy DW, Shea MT, Hsieh FY, Lavori PW, et al. Randomized trial of trauma-focused group therapy for posttraumatic stress disorder: results from a department of veterans affairs cooperative study. Archives of General Psychiatry. 2003;**60**:481-489. DOI: 10.1001/archpsyc.60.5.481

[35] Mollica RF, Caspi-Yavin Y, Lavelle J, Tor S, Yang T, Chan S, et al. The Harvard trauma questionnaire (HTQ): Manual; Cambodian, Laotian and Vietnamese versions. Torture. 1996;**6**:19-34

[36] Beck AT, Steer RA, Brown GK. Beck Depression Inventory: Second Edition Manual. San Antonio (TX): The Psychological Corporation; 1996

[37] Derogatis LR. The Brief Symptom Inventory. Baltimore: Clinical Psychometric Research; 1975

[38] Schwarzer R, Jerusalem M. Generalized self-efficacy scale. In: Weinman J, Wright S, Johnston M, editors. Measures in health psychology: A user's portfolio. Causal and control beliefs. Windsor, UK: NFER-NELSON; 1995. pp. 35-37

[39] WHOQOL Group. Development of the world health organization WHOQOL-BREF Quality of Life Assessment. Psychological Medicine. 1998;**28**(3):551-558

[40] Mooren TM, Kleber RJ. The Impact of War in Bosnia and Herzegovina: Devastated Trust. International Journal of Mental Health. 2001;**30**(2):6-21. DOI: 10.1080/00207411.2001.11449515

[41] Naumova EN, Must A, Laird NM. Tutorial in Biostatistics: Evaluating the

impact of critical periods in longitudinal studies of growth using piecewise mixed models. International Journal for Epidemiology. 2001;**30**:1332-1341

[42] VERBI. MAXQDA [Computer software]. Marburg, Germany: Author; 2007

[43] Cohen J. Quantitative methods in psychology. A power primer. Psychological Bulletin. 1992;**112**:155-159

[44] Foa EB, Ehlers A, Clark DM, Tolin DF, Orsillo SM. The Posttraumatic Cognitions Inventory (PTCI): Development and validation. Psychological Assessment. 1999;**11**(3):303-314. DOI: 10.1037/1040-3590.11.3.303

[45] Janoff-Bulman R. Shattered Assumptions: Towards a New Psychology of Trauma. New York: Free Press; 1992

[46] Dinnen S, Simiola V, Cook JM. Post-traumatic stress disorder in older adults: A systematic review of the psychotherapy treatment literature (Review). Aging and Mental Health. 2015;**19**:144-150. DOI: 10.1080/13607863.2014.920299

[47] Neugarten BL. Age groups in American society and the rise of the young-old. Political consequences of aging. Philadelphia: The Annals of the American Academy; 1974. pp. 187-198

[48] Kessler EM, Kruse A, Wahl HW. Clinical Geropsychology: A Lifespan Perspective. In: Pachana NA, Laidlaw K, editors. The Oxford Handbook of Clinical Geropsychology. Oxford: Oxford University Press; 2014. DOI: 10.1093/oxfordhb/9780199663170.01

[49] Sabey AK, Jensen J, Major S, Zinbarg R, Pinsof W. Are older adults unique? Examining presenting issues and changes in therapy across the life span. Journal of Applied Gerontology. 2018;**39**:1-18. DOI: 10/1177/0733464818818048

[50] Lonergan M. Cognitive Behavioral Therapy for PTSD: The Role of Complex PTSD on Treatment Outcome. Journal of Aggression Maltreatment & Trauma. 2014;**23**:494-512. DOI: 10.1080/10926771.2014.904467

[51] Thorp SR, Glassman LH, Wells SY, Walter KH, Gebhardt H, Twamley E, et al. A randomized controlled trial of prolonged exposure therapy versus relaxation training for older veterans with military-related PTSD. Journal of Anxiety Disorders. 2019;**64**:45-54. DOI: 10.1016/j.janxdis.2019.02.003

[52] Markowitz JC, Petkova E, Neria Y, Van Meter PE, Zhao Y, Hembree E, et al. Is Exposure Necessary? A Randomized Clinical Trial of Interpersonal Psychotherapy for PTSD. American Journal of Psychiatry. 2015;**172**(5):430-440. DOI: 10.1176/appi.ajp.2014.14070908

[53] Mooren GTM, Kleber RJ. The significance of experiences of war and migration in older age: Long-term consequences in child survivors from the Dutch East Indies. International Psychogeriatrics. 2013;**25**:1783-1791. DOI: 10.1017/s1014610213000987

[54] Danieli Y, Norris FH, Engdahl B. Multigenerational legacies of trauma: Modeling the what and how of transmission. American Journal of Orthopsychiatry. 2016;**86**(6):639-561. DOI: 10.1037/ort0000145

[55] Thorp SR, Glassman LH, Wells SY. PTSD and Trauma. In: Pachana N, editor. Encyclopedia of Gerontology. Singapore: Springer Science; 2015. pp. 1-8

[56] Smid GE, Kleber RJ, Rie SM de la, Bos JBA, Gersons BPR, & Boelen PA.

Brief eclectic therapy for traumatic grief (BEP-TG): Toward integrated treatment of symptoms related to traumatic loss. European Journal of Psychotraumatology. 2015;**6**:27324

[57] Van Schagen AM, Lancee J, De G, Spoormaker IW, VI & van den Bout, J. Imagery rehearsal therapy in addition to treatment as usual for patients with diverse psychiatric diagnoses suffering from nightmares: A randomized controlled trial. The Journal of Clinical Psychiatry. 2015;**76**(9):1105-1113. DOI: 10.4088/JCP.14m09216

[58] Videler AC, Rossi G, Schoevaars M, Van der Feltz-Cornelis CM, Van Alphen SPJ. Effects of schema group therapy in older outpatients: A proof of concept study. International Psychogeriatrics. 2014;**26**(10):1709-1717. DOI: 10.1017/S1041610214001264

[59] Carlsson J, Sonne C, Silove D. From pioneers to scientists. Challenges in establishing evidence-gathering models in torture and trauma mental health services for refugees. The Journal of Nervous and Mental Disease. 2014;**202**(9):630-637

[60] World Health Organization. Available from: http://www.who/Programmes/Violence [Accessed: 12 April 2018]

[61] O'Connor M, Elklit A. Treating PTSD symptoms in older adults. In: Schnyder U, Cloitre M, editors. Evidence Based Treatments for Trauma-Related Psychological Disorders: A Practical Guide for Clinicians. Springer International Publishing AG; 2015. pp. 381-397. DOI: 10.1007/978-3-319-07109-1_20