Nikolaus Kleindienst, Dipl.-Stat.

My research at the Central Institute of Mental Health (CIMH) aims at expanding effective treatment options for trauma-associated disorders. At the CIMH I am fortunate to have a team of researchers and clinicians in my own research group allowing us to develop new psychotherapeutic approaches that are based on recent advances in neurobiological and psychological evidence. During the last years our research group has e.g., been developing DBT-PTSD, a new form of psychotherapy. This treatment proved efficacious in randomized controlled trials headed by our research group. The corresponding results have an impact on both the national and international levels as e.g., documented by the highest-endowed national prize for research in Personality Disorders (Hamburg Preis Persönlichkeitsstörungen granted to me in 2019), by frequently cited publications, and by implementations of DBT-PTSD in a multitude of sites. As a result, DBT-PTSD is now a major treatment option for patients with trauma-associated disorders such as Borderline Personality Disorder (BPD) and Posttraumatic Stress Disorder (PTSD). Currently, our research group is developing a treatment specifically designed for the patients with a history of severe invalidating experiences during childhood. A pilot RCT with n=88 participants is underway comparing the new treatment (SE-DBT) with the current gold standard (standard DBT). The results from this pilot RCT will be used for fine tuning an international multicenter RCT (n=240) which will start next year.
Furthermore, the CIMH in general and the Clinic of Psychosomatic Medicine and Psychotherapy in particular give our research group the opportunity for closely cooperating with other research groups. These cooperations are serving several purposes. First, the development of therapies in our research greatly profits from these cooperations because the modular structure of our DBT-based treatment approach offers the opportunity for either adapting extant treatment modules or for adding new ones. I am convinced that cutting edge psychotherapies should rely on current evidence on neuropathological and psychological mechanisms of the respective disorders as e.g., generated in the neighboring research groups. Conversely, these cooperations facilitate the transfer of specific knowledge located in our group to these neighboring research groups. One of the research principles I am sharing with the other groups in our department is to produce meaningful and reproducible results by maximizing precision while minimizing bias. Both my degree in statistics and my multiyear experience in designing studies and analyzing data contribute to the truly multidisciplinary research culture, we have established in the department headed by Prof. Dr. Schmahl. This cooperation across the research groups in our department is formally reflected in several projects including a conjointly designed multicenter RCT on amygdala neurofeedback. This DFG funded study headed by Drs. Paret and Schmahl aims at improving emotion regulation in treatment-resistant patients with a diagnosis of BPD. In addition, patients from our psychotherapy studies are being routinely included in add-on studies conducted by the other research groups from our department. This way, we conjointly assess data from several areas including clinical assessments, functional neuroimaging, ecological momentary assessments, and psychological experiments which allows us to deepen our understanding of both the precise effects of the treatments under investigation and of the neurobiological and psychological underpinnings of trauma-associated disorders.

2. Key output of the years 2020-now

From 2020-now I authored or co-authored 37 peer-reviewed articles. These articles include publications in high-ranking journals in both psychiatry (e.g., JAMA Psychiatry) and clinical psychology (e.g., Journal of Consulting and Clinical Psychology).

i) Bohus*, M., Kleindienst*, N. (equally contributing), Hahn, C., Müller-Engelmann, M., Ludäscher, P., Steil, R., ... & Priebe, K. (2020). Dialectical behavior therapy for posttraumatic stress disorder (DBT-PTSD) compared with cognitive processing therapy (CPT) in complex presentations of PTSD in women survivors of childhood abuse: a randomized clinical trial. JAMA Psychiatry, 77(12), 1235-1245.

This article reports on the primary outcome of our multicenter-RCT comparing DBT-PTSD, a new, specifically designed modular treatment, against cognitive processing therapy (CPT), one of the best empirically supported treatments for PTSD. Patients with severe childhood abuse–associated PTSD highly improved under both DBT-PTSD and CPT, with DBT-PTSD being superior to CPT. The study shows that even severe childhood abuse–associated PTSD with emotion dysregulation can be treated efficaciously.

ii) Kleindienst, N., Steil, R., Priebe, K., Müller-Engelmann, M., Biermann, M., Fydrich, T., ... & Bohus, M. (2021). Treating adults with a dual diagnosis of borderline personality disorder and posttraumatic stress disorder related to childhood abuse: Results from a randomized clinical trial. Journal of Consulting and Clinical Psychology, 89(11), 925.

As about half of individuals seeking treatment for BPD present with co-occurring PTSD and because therapies that proved efficacious for simultaneously treating the full spectrum of core symptoms in patients with a dual diagnosis of BPD+PTSD were lacking, we compared efficacy of DBT-PTSD and CPT for this group of patients particularly in need of an efficacious treatment. Between-group comparisons significantly favored DBT-PTSD for improvement in symptoms of PTSD, BPD, and dissociation. Results of this study have an immediate impact on the treatment of adults with a dual diagnosis of BPD+PTSD, as they show that the full symptomatic spectrum of both conditions can be efficaciously treated through a psychotherapeutic treatment.

iii) Kleindienst, N., Löffler, A., Herzig, M., Bertsch, K., & Bekrater-Bodmann, R. (2020). Evaluation of the own body in women with current and remitted borderline personality disorder: evidence for long-lasting effects of childhood sexual abuse. European Journal of Psychotraumatology, 11(1), 1764707.

Besides establishing efficacy on symptoms as defined in the DSM-5 we are aiming at disorder-related impairments significantly affecting the patients' quality of life. This study shows that body evaluation (which is known to be highly negative in women with BPD or with PTSD related to childhood sexual abuse) only partially improves after remission. While the evaluation of neutral body areas highly improved, sexually connoted body areas seems to remain an issue even after remission from the disorder has been achieved. Accordingly, women with BPD may require a specifically designed intervention to achieve a positive evaluation of their entire body.

Futhermore, members of my research group have published major findings from our research on both BPD and complex PTSD in The Lancet, either as a first author (Bohus et

al., 2021, The Lancet, 398, 1528-1540) or as a last author (Maercker et al., 2022, The Lancet, 400, 60-72).