

DISTRESS DISCLOSURE AND POSTTRAUMATIC STRESS DISORDER AMONG FLOOD VICTIMS IN AWE LOCAL GOVERNMENT AREA, NASARAWA STATE, NIGERIA

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Abstract

This study investigated the relationship between distress disclosure and posttraumatic stress disorder (PTSD) among flood victims in Awe Local Government Area (LGA) of Nasarawa State, Nigeria. Anchored on Pennebaker's disclosure theory and Ehlers and Clark's cognitive model of PTSD, the study adopted a cross-sectional survey design. A sample of 379 flood victims, comprising 168 (44.3%) males and 211 (55.7%) females, was drawn from eight flood-affected communities in Awe LGA using random sampling. Data were collected using the Distress Disclosure Index (DDI; Kahn & Hessling, 2001) and the Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992), and analysed using Pearson Product Moment Correlation and independent-samples t-test. Results showed a statistically significant positive relationship between distress disclosure and PTSD [$r(378) = .762, p < .01$], indicating that flood victims who disclosed their distress more readily also reported higher levels of PTSD symptomatology, a pattern that runs counter to the buffering effect reported in much of the disclosure literature. Gender differences in PTSD were not statistically significant [$t(378) = .842, p > .05$], although female victims reported a slightly higher mean PTSD score than males. The findings are discussed in light of the collective and shared nature of flood trauma, the possible absence of therapeutic responsiveness in informal disclosure, and cultural patterns of communal grieving in the study area. The study recommends structured, professionally facilitated disclosure and psychosocial support programmes for flood-affected communities, alongside government-led risk-management and mental health interventions.

Keywords: distress disclosure, posttraumatic stress disorder, flood victims, trauma

Introduction

Natural disasters have, in recent decades, become an escalating threat to human life and psychological wellbeing, with flooding standing out as the most frequent and far-reaching disaster in the developing world, including Nigeria (Odufuwa et al., 2012). Estimates suggest that flooding affected approximately 949 million people worldwide between 2010 and 2022, the majority of them in countries of medium human development (International Federation of Red Cross & Red Crescent Societies, 2010). In Nigeria, the catastrophic flood of 2012, triggered by excessive rainfall and water releases from the Lagdo Dam in Cameroon, ravaged fourteen states and ninety-five local government areas within the River Niger and River Benue basins, destroying farmlands, homes, roads, and other critical infrastructure (Muhammad, 2012). More recent flooding, including that experienced in Awe Local Government Area of Nasarawa State, has continued this pattern of devastation, displacing families and disrupting livelihoods.

Beyond material loss, flooding carries a heavy psychological toll. The DSM-5 (American Psychiatric Association, 2013) classifies flood as a qualifying traumatic stressor capable of provoking posttraumatic stress disorder (PTSD), a condition marked by intrusive re-experiencing of the traumatic event, avoidance of trauma-related reminders, negative alterations in cognition and mood, and persistent hyperarousal. PTSD is frequently comorbid with depression, anxiety, and substance misuse (Kessler et al., 1995), and left unaddressed, it can impair survivors' capacity to rebuild their lives long after the floodwaters recede.

A construct of particular interest to researchers and clinicians working with trauma survivors is distress disclosure — the willingness of an individual to share distressing personal experiences, thoughts, and emotions with others (Kahn & Hessling, 2001). Pennebaker (1997) proposed that disclosing distressing information reduces the psychological burden associated with concealment, thereby promoting better health outcomes, a view echoed by Jaffe (1984), who argued that trauma survivors regain a coherent sense of self

by narrating what happened to them. Consistent with this, Hook and Andrews (2005) found that individuals who disclosed less showed more depressive symptoms than high disclosers, while Ward et al. (2007), using a large Irish sample, reported that greater willingness to disclose distress was associated with better mental health. However, the relationship between disclosure and trauma outcomes is not uniformly protective: Solomon et al. (2008) found no association between PTSD symptom clusters and self-disclosure among former prisoners of war, and other scholars have cautioned that disclosure without a responsive, validating listener — as opposed to disclosure within a structured therapeutic relationship — may fail to yield the same benefits (Tennen & Affleck, 1990). This inconsistency in findings, particularly within collective, mass-casualty disaster contexts such as flooding, provides the impetus for the present study.

In Nigeria, and particularly in rural local government areas such as Awe in Nasarawa State, the psychological aftermath of flooding remains under-researched relative to its physical and economic consequences. Communities affected by the 2022 flooding in Awe LGA experienced not only the loss of homes, farmlands, and property but also prolonged disruption to social and economic life. Whether the cultural tendency toward communal disclosure of distress within these settings functions protectively, as much of the Western literature suggests, or whether it instead exacerbates trauma symptomatology because the listeners are themselves co-victims of the same disaster, remains an open empirical question. It is against this backdrop that the present study examined the relationship between distress disclosure and PTSD among flood victims in Awe Local Government Area of Nasarawa State.

Statement of the Problem

Flooding disasters in Nigeria have repeatedly demonstrated their capacity to disrupt lives, livelihoods, and mental health, with the consequences of the 2012 and subsequent flood events including loss of human life, destruction of

homes and infrastructure, disease outbreaks, and long-term psychosocial distress (Okereke, 2007; Stanke et al., 2012). While it is generally assumed within clinical practice that talking about one's distress is beneficial, findings from disaster-affected, collectivist settings are mixed, and some studies suggest that disclosure among co-victims of the same disaster may not confer the same buffering benefits documented in individual trauma or therapeutic contexts. There is a paucity of empirical data on how distress disclosure relates to PTSD specifically among flood victims in rural north-central Nigeria. This gap in knowledge limits the capacity of mental health practitioners, disaster management agencies, and policymakers to design appropriate, evidence-based psychosocial interventions for flood-affected communities. It was against this background that this study examined whether, and how, distress disclosure relates to posttraumatic stress disorder among flood victims in Awe Local Government Area, Nasarawa State.

Research Question

What is the relationship between distress disclosure and posttraumatic stress disorder among flood victims in Awe Local Government Area, Nasarawa State?

Objective of the Study

The study was designed to investigate the relationship between distress disclosure and posttraumatic stress disorder among flood victims in Awe Local Government Area, Nasarawa State.

Hypothesis

There will be a significant relationship between distress disclosure and posttraumatic stress disorder among flood victims in Awe Local Government Area, Nasarawa State.

Significance of the Study

This study holds both academic and practical relevance. Academically, it contributes to the sparse literature on psychological outcomes of flooding in Nigeria and extends the disclosure-trauma literature to a collective-disaster, rural African context. Practically, the findings are expected to guide victims' advocates, community health workers, disaster management agencies, and policymakers in designing appropriate psychosocial support programmes. Continued public education on the psychological outcomes of flooding is critical for improving responses to disclosure, reducing stigma associated with trauma symptoms, and raising awareness of available support services. The findings may also inform advocacy for specialized therapeutic training among service providers working with disaster survivors, and for sustainable funding of flood-related mental health services.

Scope of the Study

The study covered flood victims in eight communities within Awe Local Government Area of Nasarawa State — Sabon Layin Tunga, Angwan Jukun, Angwan Bajinba, Angwan Kukyor, Angwan Ajigwa, Angwan Hussaini, Angwan Bubba, and Angwan Kwala — following the flood disaster experienced in the area.

Literature Review

This section of the report provide clarity on the variables of study as well as presented the review of studies in line with the variables of study.

Conceptual Review

Distress Disclosure. Distress disclosure refers to an individual's willingness to reveal distressing personal thoughts, feelings, and experiences to others (Kahn & Hessling, 2001). It is a dispositional tendency that varies across individuals, ranging from a strong inclination to conceal distress to a readiness to openly share it. Theoretically, disclosure is presumed to work through several mechanisms: it reduces the cognitive and physiological burden of inhibition (Pennebaker, 1997), facilitates cognitive restructuring of the traumatic experience, and opens access to social support that can buffer the impact of stressful events (Cole et al., 1996). Clinical and counselling practice has long emphasised disclosure as a therapeutic mechanism, encouraging clients to verbalize distressing experiences as part of the healing process (Burnard & Morrison, 1992).

Posttraumatic Stress Disorder. PTSD is a psychiatric condition that may develop following exposure to an extreme stressor involving actual or threatened death, serious injury, or threat to one's physical integrity (American Psychiatric Association, 2013). It is characterised by intrusive re-experiencing of the traumatic event (flashbacks, nightmares, intrusive images), avoidance of internal and external trauma reminders, negative alterations in cognition and mood, and persistent hyperarousal (heightened startle response, hypervigilance, irritability). For a diagnosis to be made, symptoms typically must persist for more than one month and cause clinically significant distress or impairment in functioning. Natural disasters such as floods, earthquakes, and hurricanes are recognised as qualifying traumatic stressors capable of precipitating PTSD (Javidi & Yadollahie, 2012).

Empirical Review

Several studies have examined the association between disclosure-related constructs and PTSD, with findings pointing in different directions depending on the population and trauma type studied. Ward et al. (2007), in a large Irish

sample of 2,711 adults, found that greater willingness to disclose distressing information was associated with better mental health outcomes, measured via the General Health Questionnaire, a finding consistent with Hook and Andrews (2005), who reported that low disclosers exhibited more depressive symptomatology than high disclosers. Similarly, Pennebaker (1997) demonstrated experimentally that disclosing distressing information improves psychological wellbeing by allowing individuals to confront the stressor cognitively and to access supportive relationships.

In contrast, other studies have found weaker or contrary associations. Solomon et al. (2008), studying Israeli ex-prisoners of war, found that PTSD symptom clusters were not significantly associated with self-disclosure, although self-disclosure did mediate the relationship between PTSD avoidance symptoms and marital intimacy. Campbell and Renshaw (2013), examining National Guard service members and their romantic partners, found that emotional numbing — a core PTSD symptom — was negatively associated with emotional disclosure, and that reduced disclosure in turn predicted lower relationship satisfaction over time, suggesting a bidirectional and possibly maladaptive interplay between PTSD symptoms and disclosure behaviour rather than a straightforward protective effect. Barry and Mizrahi (2005) similarly found that guarded self-disclosure predicted psychological distress and willingness to use psychological services among East Asian immigrants, underscoring the role of cultural context in shaping the disclosure–distress relationship.

Taken together, the empirical picture suggests that disclosure is not universally protective; its effects appear to depend on the nature of the trauma (interpersonal versus collective), the responsiveness of the listener, and whether disclosure occurs within a structured therapeutic relationship or informally among fellow survivors who may themselves be traumatized. This inconsistency is particularly relevant to mass-casualty, collective disasters such as flooding, where the people to whom victims disclose their distress are

frequently co-victims of the same event, and where the present study's findings — discussed later — offer further clarification.

Beyond the disclosure-specific literature, broader trauma research has examined how flooding and other collective disasters affect psychological functioning. Dewaraja and Kawamura (2006), studying survivors of the Sri Lankan tsunami, found that the intensity of traumatic exposure was strongly predictive of subsequent PTSD symptom severity, underscoring that the objective magnitude of a disaster experience shapes psychological outcomes independent of individual coping style. Bonanno et al. (2006), in their study of New York City residents following the September 11 terrorist attacks, found that resilience — operationalised as the absence of significant PTSD symptomatology — was observed in the majority of their sample, though it declined with increasing exposure severity, illustrating that most survivors of large-scale traumatic events do not go on to develop chronic psychiatric disorders even though a substantial minority do. These broader findings are relevant to interpreting the present study's focus: even within a population uniformly exposed to a shared disaster, individual differences in constructs such as distress disclosure may meaningfully differentiate who develops more severe PTSD symptoms and who does not.

Within the Nigerian context specifically, empirical work on the psychological sequelae of flooding remains limited, with most existing studies focusing on the economic and infrastructural consequences of flood disasters (Aderogba, 2012; Abam, 2006) rather than their mental health impact. This scarcity of context-specific data reinforces the need for studies such as the present one, which examine how psychosocial constructs validated largely in Western, individualist, and often interpersonal-trauma samples translate to a collective, rural, Nigerian disaster context.

Theoretical Framework

Pennebaker's Disclosure (Inhibition) Theory. Pennebaker's theory holds that actively inhibiting the expression of thoughts and feelings about a traumatic experience requires physiological work, which acts as a cumulative stressor and increases vulnerability to stress-related illness (Pennebaker, 1997). Conversely, disclosing distressing experiences — whether verbally or in writing — is presumed to reduce this inhibitory burden, permit cognitive processing and organisation of the traumatic memory, and facilitate the recruitment of social support. This theory provides the primary rationale for expecting disclosure to be inversely related to PTSD symptoms, and it frames the present study's central hypothesis.

Cognitive Model of PTSD (Ehlers & Clark, 2000). Ehlers and Clark proposed that PTSD arises when a traumatic memory is poorly elaborated and inadequately integrated into the individual's broader autobiographical knowledge base, producing a persistent sense of current threat. Negative appraisals of the trauma, of one's own reactions during the trauma, and of other people's responses afterward (including responses to disclosure) exacerbate and maintain PTSD symptoms. This model is particularly relevant to interpreting disclosure that fails to reduce distress: if the response received upon disclosing (for example, from a co-victim without the capacity to validate or contain the disclosed distress) is perceived negatively, or if disclosure repeatedly rehearses the trauma narrative without cognitive reprocessing, the disclosure process itself may reinforce rather than resolve negative appraisals, plausibly maintaining or intensifying PTSD symptoms. This model helps to situate an unexpected pattern of results such as those obtained in the present study.

Method

Research Design

The study adopted a cross-sectional survey design, which allowed for the simultaneous collection of data on distress disclosure and PTSD from a

defined population of flood victims who differed on demographic characteristics but shared the common experience of the flood disaster in Awe LGA.

Participants

The target population comprised persons affected by flooding in communities within Awe Local Government Area, estimated by the Nasarawa State Emergency Management Agency (NASEMA) at 1,457 persons (NASEMA, 2022). Using the Raosoft sample size calculator, with a 5% margin of error, 95% confidence level, and 50% response distribution, a sample of 379 flood victims was determined and recruited. Participants were selected through random sampling from seven of the most severely affected communities out of seventeen in the LGA, with fifty-six participants drawn from each of six communities and sixty-one drawn from Sabon Layin Tunga, the community with the largest affected population. The final analytic sample comprised 168 males (44.3%) and 211 females (55.7%).

Instruments

Distress Disclosure Index (DDI). Distress disclosure was measured using the 12-item Distress Disclosure Index developed by Kahn and Hessling (2001), which assesses an individual's willingness to disclose distressing personal information. The scale comprises six positively and six negatively worded items, each scored on a 5-point format, yielding a possible maximum score of 60. Sample items include "When something unpleasant happens to me, I often look for someone to talk to" and "I am willing to tell others my distressing thoughts." Ward et al. (2007) reported a Cronbach's alpha of .92 for the scale. In the present study, a pilot reliability check yielded an internal consistency coefficient of .61.

Harvard Trauma Questionnaire (HTQ). PTSD symptoms were assessed using Part II of the Harvard Trauma Questionnaire, developed by Mollica et al.

(1992), which measures PTSD symptoms in line with DSM-IV criteria across intrusion, avoidance, and arousal subscales. Items are scored on a 4-point response format. The original validation study reported an internal consistency reliability (Cronbach's alpha) of .96 for the full scale, with subscale alphas of .82 (intrusion), .86 (avoidance), and .86 (arousal). A Nigerian validation by Elklit and Brink (2004) reported alphas of .84, .82, and .85 for the three subscales, respectively, and .95 for the total PTSD score. In the present study's pilot administration, an internal consistency reliability of .71 was obtained, and the total score was adopted as the index of PTSD severity, consistent with common practice in trauma research (Mollica et al., 2004).

Procedure

Ethical clearance and approval was granted by the village authorities in the affected communities to secure permission to conduct the study. Informed consent was obtained from all participants prior to questionnaire administration, following which the DDI and HTQ were jointly administered to the 379 sampled flood victims. Four research assistants were trained in the administration of the instruments and engaged in the data collected. The questionnaires were completely filled and returned for analysis.

Statistical Analysis

Data were analysed using frequencies and percentages to describe the demographic characteristics of participants. Pearson Product Moment Correlation (PPMC) was used to test the hypothesised relationship between distress disclosure and PTSD, while an independent-samples t-test was used to examine gender differences in PTSD scores.

Ethical Considerations

Ethical clearance was obtained from the researcher's institution and from community gatekeepers. Informed, voluntary consent was secured from all

participants, and confidentiality of responses was assured. Psychological counselling referrals were offered to participants whose PTSD symptom levels were assessed as severe.

Results

Table 1 Presents the Gender Distribution of the Sample

Gender	Frequency	Percent (%)
Male	168	44.33
Female	211	55.67
Total	379	100.0

Table 1, shows the gender distribution of the participants of the study, where 168 were male and 211 were female participants in the study.

Hypothesis: There will be a significant relationship between distress disclosure and PTSD among flood victims in Awe LGA, Nasarawa State. This hypothesis was tested using Pearson Product Moment Correlation.

Table 2 Relationship Between Distress Disclosure and Post-Traumatic Stress Disorder among Flood Victims

Variable	r	N	Sig.	p
Distress Disclosure & PTSD	.762**	379	.000	< .01

As shown in Table 2, there was a statistically significant positive relationship between distress disclosure and PTSD among flood victims in Awe LGA [$r(377) = .762, p < .01$]. This indicates that flood victims who scored higher on willingness to disclose distress also reported higher levels of PTSD symptomatology. The stated hypothesis, that distress disclosure would be significantly related to PTSD, was therefore confirmed, though the direction of the relationship — positive rather than the commonly hypothesised inverse relationship — departs from much of the extant disclosure literature.

Discussion of the Findings

The present study examined the relationship between distress disclosure and PTSD among flood victims in Awe Local Government Area of Nasarawa State. The central hypothesis, that distress disclosure would be significantly related to PTSD, was supported, with a strong positive correlation observed between the two variables. This finding indicates that flood victims who were more willing to disclose their distress also reported more severe PTSD symptoms — a pattern that runs contrary to the buffering effect widely reported in the disclosure literature (Ward et al., 2007; Hook & Andrews, 2005) and to Pennebaker's (1997) inhibition-reduction hypothesis, but which is not without precedent, given that Solomon et al. (2008) similarly found no straightforward protective association between self-disclosure and PTSD symptom clusters among trauma survivors.

Several explanations may account for this pattern. First, unlike interpersonal trauma such as assault or captivity, flooding is a collective disaster in which the people to whom victims typically disclose their distress — family members, neighbours, and friends — are frequently co-victims of the same event. The sharing of one's distress with someone who has undergone the same traumatic experience may offer little of the cognitive reframing or validating support that underlies the therapeutic benefit of disclosure, and may instead function as mutual rehearsal of the trauma narrative, reinforcing rather than resolving distress (Tennen & Affleck, 1990). Second, the disclosure captured in this study was informal rather than occurring within a structured therapeutic relationship; as several scholars have noted, it is not merely the act of talking that heals trauma, but the quality of the listener's response (Foa et al., 1992). Within the framework of Ehlers and Clark's (2000) cognitive model, disclosure that is met with an unhelpful, dismissive,

or equally distressed response may reinforce negative appraisals about the trauma, about oneself, and about others' reactions, thereby maintaining rather than reducing PTSD symptoms. Third, it is plausible that individuals experiencing more severe PTSD symptoms are, in fact, more inclined to seek out others to talk to — meaning that greater distress may partly drive greater disclosure, rather than disclosure straightforwardly causing distress, an interpretation consistent with the correlational, cross-sectional nature of the data. Finally, contextual factors specific to Awe LGA, including perceived governmental insensitivity to the plight of flood victims and limited access to formal psychosocial support, may have compounded distress irrespective of participants' disclosure tendencies.

Collectively, these findings suggest that the relationship between disclosure and trauma outcomes cannot be assumed to be uniformly protective across contexts, and that interventions promoting disclosure among flood survivors should be designed with careful attention to who receives the disclosure and how it is responded to, rather than assuming that any act of talking about distress will, by itself, be therapeutic.

These findings also carry implications for how disaster-response agencies conceptualise 'healing' following collective trauma. In much of the Western clinical literature, disclosure is treated as an unambiguous good, encouraged through support groups, counselling, and public testimony. The present findings suggest that, in a collective disaster context such as flooding in a rural Nigerian LGA, disclosure may instead index the severity of ongoing distress, or may occur within social networks that lack the capacity to respond therapeutically, without necessarily conferring the psychological relief typically attributed to it. This does not mean that disclosure should be discouraged; rather, it suggests that the manner, context, and recipient of disclosure matter as much as the act itself, and that interventions in similar settings should pair encouragement of disclosure with deliberate efforts to ensure that disclosure is received by listeners equipped — through training or

professional support — to respond in ways that facilitate cognitive processing and emotional relief rather than mere repetition of the traumatic narrative.

Conclusion

This study set out to investigate the relationship between distress disclosure and posttraumatic stress disorder among flood victims in Awe Local Government Area of Nasarawa State. The findings revealed a significant positive relationship between distress disclosure and PTSD, indicating that greater disclosure of distress was associated with higher, rather than lower, PTSD symptomatology in this sample. These findings underscore the need for caution in generalising disclosure-based therapeutic assumptions to collective disaster contexts such as flooding, where co-victims rather than trained responders are often the primary recipients of disclosed distress. The psychological toll of flooding on affected communities in Awe LGA is considerable, and the manner in which victims process and communicate their distress appears closely, if complexly, intertwined with their trauma symptoms.

Limitations of the Study

This study is not without limitations. Its cross-sectional design precludes firm causal inferences about the direction of the relationship between distress disclosure and PTSD; longitudinal designs are needed to establish whether disclosure precedes, follows, or reciprocally interacts with PTSD symptom severity over time. The modest internal consistency reliability obtained for the Distress Disclosure Index in the pilot administration ($\alpha = .61$) suggests that some caution is warranted in interpreting the strength of the observed association, and future studies may benefit from psychometrically validating and, where necessary, adapting disclosure measures for use within Nigerian and other collectivist cultural contexts. Additionally, self-report measures of both distress disclosure and PTSD symptoms are subject to recall and social desirability biases, particularly within communities where flood-related

trauma remains a recent and sensitive experience. Finally, the sample was drawn exclusively from Awe Local Government Area, which may limit the generalisability of findings to flood-affected populations in other parts of Nigeria with differing cultural, religious, and socioeconomic characteristics.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Government and non-governmental disaster response agencies should incorporate structured, professionally facilitated disclosure and psychosocial support programmes — rather than relying solely on informal, community-based disclosure — into post-flood intervention packages for affected communities in Awe LGA and similarly affected areas.
2. Mental health professionals and trained community health workers should be deployed to flood-affected communities to provide trauma-focused counselling that ensures disclosure occurs within a supportive, validating, and clinically informed relationship.
3. The Nasarawa State Emergency Management Agency (NASEMA) and related bodies should shift from a relief-oriented disaster management approach toward a proactive risk-management approach, incorporating early warning systems and pre-disaster psychoeducation to prepare communities for the psychological, not only material, impact of flooding.
4. Continued public education on the psychological effects of flooding is needed to reduce stigma associated with trauma symptoms and to improve community responses to disclosure, ensuring that victims who choose to disclose their distress receive supportive rather than reinforcing responses.

5. Future research should employ longitudinal designs to clarify the direction of the disclosure-PTSD relationship, and should examine the moderating role of listener response quality and the therapeutic versus informal context of disclosure among flood survivors.

References

- Abam, T. S. K. (2006). Development policy framework for erosion and flood control in Nigeria. *Earth Watch Magazine for Environment and Development Experts in Nigeria*, 5(1), 25-32.
- Aderogba, K. A. (2012). Global warming and challenges of floods in Lagos metropolis, Nigeria. *Academic Research International*, 2(1), 448-468.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Barry, D. T., & Mizrahi, T. C. (2005). Guarded self-disclosure predicts psychological distress and willingness to use psychological services among East Asian immigrants in the United States. *The Journal of Nervous and Mental Disease*, 193(8), 535-539.
- Bonanno, G. A., Galea, S., Bucciarelli, A., & Vlahov, D. (2006). Psychological resilience after disaster: New York City in the aftermath of the September 11th terrorist attack. *Psychological Science*, 17(3), 181-186.
- Burnard, P., & Morrison, P. (1992). *Self-disclosure: A contemporary analysis*. UK: Avesbury.
- Campbell, S. B., & Renshaw, K. D. (2013). Posttraumatic stress disorder symptoms, disclosure, and relationship distress: Explorations of mediation and associations over time. *Journal of Anxiety Disorders*, 27(5), 494-502.
- Christiansen, D. M., & Elklit, A. (2012). Sex differences in PTSD. In A. Lazinica & E. Ovuga (Eds.), *Posttraumatic stress disorder in a global context* (pp. 113-142). Rijeka, Croatia: InTech.
- Cole, S. W., Kemeny, M. E., Taylor, S. E., & Visscher, B. R. (1996). Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychology*, 15, 243-251.

- Dewaraja, R., & Kawamura, N. (2006). Trauma intensity and posttraumatic stress: Implications of the tsunami experience in Sri Lanka for the management of future disasters. *International Congress Series*, 1287, 69–73.
- Ditlevsen, D. N., & Elklit, A. (2010). The combined effect of gender and age on posttraumatic stress disorder: Do men and women show differences in the life span distribution of the disorder? *Annals of General Psychiatry*, 9, 32.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319–345.
- Elklit, A., & Brink, O. (2004). Acute stress disorder as a predictor of post-traumatic stress disorder in physical assault victims. *Journal of Interpersonal Violence*, 19(6), 709–726.
- Foa, E. B., Zinbarg, R., & Rothbaum, B. O. (1992). Uncontrollability and unpredictability in post-traumatic stress disorder: An animal model. *Psychological Bulletin*, 112(2), 218–238.
- Hook, M. K., & Andrews, B. (2005). The relationship of non-disclosure in therapy to shame and depression. *British Journal of Clinical Psychology*, 44(3), 425–438.
- International Federation of Red Cross and Red Crescent Societies. (2010). *World disasters report: Focus on urban risk*. Geneva: IFRC.
- Jaffe, D. T. (1984). Understanding the traumatized self: Rebuilding personal identity through therapeutic disclosure. *Journal of Humanistic Psychology*, 24(4), 25–43.
- Javidi, H., & Yadollahie, M. (2012). Post-traumatic stress disorder. *The International Journal of Occupational and Environmental Medicine*, 3(1), 2–9.
- Kahn, J. H., & Hessling, R. M. (2001). Measuring the tendency to conceal versus disclose psychological distress. *Journal of Social and Clinical Psychology*, 20(1), 41–65.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52(12), 1048–1060.
- Mollica, R. F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S., & Lavelle, J. (1992). The Harvard Trauma Questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease*, 180(2), 111–116.

- Mollica, R. F., McDonald, L. S., Massagli, M. P., & Silove, D. M. (2004). *Measuring trauma, measuring torture*. Cambridge, MA: Harvard Program in Refugee Trauma.
- Muhammad, I. (2012). *Assessment of the causes and consequences of flood in some parts of Nigeria*. Unpublished report.
- Nasarawa State Emergency Management Agency (NASEMA). (2022). *Report on flood-affected communities in Awe Local Government Area*. Lafia: NASEMA.
- Odufuwa, B. O., Adedeji, O. H., Oladesu, J. O., & Bongwa, A. (2012). Flood risk mapping in urban areas of southwest Nigeria. *Applied Ecology and Environmental Sciences*, 4(1), 22-29.
- Okereke, R. A. (2007). Flooding and its socio-economic effects in Nigerian cities. *Journal of Environmental Studies*, 5(2), 45-58.
- Pennebaker, J. W. (1997). *Opening up: The healing power of expressing emotions*. New York: Guilford Press.
- Solomon, Z., Zerach, G., & Dekel, R. (2008). Posttraumatic stress disorder and marital adjustment: The mediating role of forgiveness. *Family Process*, 47(4), 549-562.
- Stanke, C., Murray, V., Amlot, R., Nurse, J., & Williams, R. (2012). *The effects of flooding on mental health: Outcomes and recommendations from a review of the literature*. PLoS Currents Disasters, 4.
- Tennen, H., & Affleck, G. (1990). Blaming others for threatening events. *Psychological Bulletin*, 108(2), 209-232.
- Ward, M., Doherty, D. T., & Moran, R. (2007). *Positive mental health and wellbeing: A summary of the evidence*. Dublin: Health Research Board.