**Shared Trauma During the COVID-19 Pandemic: Psychological Effects on Israeli Mental Health Nurses**

Abstract

Mental health nurses, tasked with constant care of consumers undergoing mental health treatment, have faced unique challenges arising from the uncertain outcomes of the COVID-19 pandemic. The psychological effects of this shared trauma on mental health nurses arising from the pandemic is the subject of this study. An online survey was used to examine personal levels of anxiety and concern, personal and national resilience, and posttraumatic growth among 183 mental health nurses working in mental health services in Israel. Overall, the study revealed moderate levels of concern and relatively low levels of anxiety, with significant negative correlations between personal resilience and levels of concern and anxiety. Higher levels of national resilience were related to lower levels of concern and anxiety, and there was a significant positive correlation between assessments of personal resilience and national resilience. A significant positive correlation was found between personal and national resilience and posttraumatic growth. Higher religiosity was associated with higher resilience, and higher professional seniority was related to higher posttraumatic growth. This study e Finally, results for particular demographic subgroups indicate that, in Israel, special attention should be given to those mental health nurses who have immigrated to Israel, are non-Jews or have less professional experience.

Keywords: COVID-19, posttraumatic growth, psychiatric nursing, psychological trauma, resilience.

Introduction

The COVID-19 pandemic has posed unique challenges to mental health nurses (Foye et al., 2021). Recent studies have demonstrated that the pandemic has characteristics consonant with a global traumatic event, with evidence from populations in Italy (Forte et al., 2020), China (Lai, 2020), and Israel (Lahav, 2020). This global trauma is a collective one simultaneously affecting therapists and their patients (Masiero et al., 2020). Previous research has shown that while some who experience disasters, such as the COVID-19 pandemic, will inevitably develop mental health problems following a disaster; others, will continue to function well and may even have positive emotional experiences resulting from the traumatic event (Brooks, et al., 2020). This study aims to examine both the negative and positive psychological effects of the COVID-19 crisis on mental health nurses.

Background

Mental health nurses routinely face concrete stressors and professional challenges in their workplace (Foster et al., 2019). Their stress is a product of their inherently demanding vocation, which under typical conditions involves being exposed to verbal and physical violence, among other threats, and having to cope effectively with patients’ suicidal ideations (Foster, 2020). During the pandemic, mental health nurses found themselves dealing with a unique, shared traumatic reality in which therapists and patients are simultaneously exposed to a collective trauma. (Day et al., 2017). Shared trauma is a phenomenon born out of a traumatic event, whether an individual or collective trauma, that is experienced at all levels – worldwide / multinational, societal, community, interpersonal, and intrapsychic. While this phenomenon has been extensively researched among social workers (Tosone, 2020), studies of nurses are scarce.

The reality of shared trauma can cause damage, but it can also induce change, with studies showing that a shared experience of a traumatic reality can lead to both positive and negative outcomes (Baum 2014; Nuttman-Shwartz, 2016; Day et al., 2017; Tosone, 2020). While nurses working in a shared traumatic reality may perceive their work as stressful and even traumatic, this reality may also spur posttraumatic growth (Lev-Wiesel et al., 2009), defined as positive psychological change, reported by an individual as a consequence of struggling with stressful life events, trauma or highly challenging life situations (Tedeschi & Calhoun, 2004; Tedeschi et al., 1998).

A recent review of the positive aspects of trauma in response to the COVID-19 pandemic argues that positive outcomes are also possible, as emphasized in the trauma literature on resilience, coping strategies, and posttraumatic growth (Finstad et al., 2021). In this context, resilience has two definitions. In its collective sense, resilience refers to the collective capacity of a profession to withstand adversity and to develop positively in the face of change. Such group resilience is considered to be context-specific, with mental health nurses viewed as a ‘resilient group’ due to being able to survive and grow within the context of multiple professional changes over time (Foster et al., 2019).

National resilience (NR) is people's subjective perception of an entire country’s capacity to withstand crisis and recover as quickly as possible (Kimhi et al., 2019). Recent studies (Ballada, et al., 2021; Kimhi et al., 2020) proposed four elements that identify NR during the COVID-19 crisis: individuals’ identification with their country, a sense of solidarity, a sense of social justice, and trust in public institutions.

To the best of our knowledge, this study represents the first time the psychological effects of the COVID-19 crisis on mental health nurses, who faced a shared traumatic reality and a stressful work environment, has been examined.We hypothesize that, as with other traumatic events, the COVID-19 crisis has had both negative and positive psychological effects on mental health nurses.

In this study, negative psychological effects were assessed through analysing mental health nurses’ concerns and anxiety, and positive effects through analysing their personal resilience, national resilience, and posttraumatic growth.

**Methods**

Research Design

A cross-sectional study was carried out between from April 1 and 30, 2020. STROBE reports for cross-sectional studies (Vandenbroucke et al., 2007), were used in this study.

Participants: The research sample included 183 mental health nurses, all members of the Psychiatric Nursing Association in Israel. The participants worked at Israeli mental health centres, in psychiatric wards at general hospitals, and as community mental health nurses. Their ages ranged from 24–66 years old (M = 47.37, SD = 10.71) (Table 1).

Study Setting

Data collection: An invitation to participate in an online survey was sent by text message to 800 registered members of the Israeli Psychiatric Nursing Association. A total of 183 participants (a response rate of 23%) provided valid, complete data, which are included in the analysis. The survey instruction included information on the purpose and significance of the study and required participating nurses to expressly consent to participate by clicking on an ‘Agree’ button before beginning the survey. Participation in the study was voluntary and anonymous. The study was approved by the IRB of XXX-XXXX Mental Health Medical Center (LH3/2020).

Analysis: To assess the negative effects of the COVID-19 pandemic on mental health nurses, we probed their concerns and anxiety. Concern was assessed using questions that probed their concern about the virus for themselves, for relatives, and for the larger economic and political situation. Examples included: “How concerned are you about being infected by COVID-19?” and “How concerned are you for your ability to cope the disease if you get it?**”** (Cronbach’s α = 0.83). Eight questions were included, and answers were rated on a Likert scale of 1–5.

Respondents’ degree of anxiety was assessed with the seven-item Generalized Anxiety Disorder scale GAD-7 in which scores ≥ 10 indicate likely generalized anxiety disorder (Spitzer et al., 2006). In general, higher scores indicate higher anxiety levels. Scores were derived from the average response for all items (Cronbach’s α = 0.84).

To assess the positive psychological effects of the pandemic among mental health nurses, we examined personal resilience, national resilience and posttraumatic growth. We used a briefer version of the Connor-Davidson Resilience Scale (CD-RISC) (Campbell-Sills and Stein, 2007), a self-report questionnaire of 10 items, using the Hebrew translation by Fridenzon (2011), to test for personal resilience. The questionnaire had convergent validity (Cronbach’s α = 0.88).

The National Resilience Questionnaire included 13 items on a scale ranging from 0 (very low) to 5 (very high). Example of items include: “In a national crisis, the entire Israeli society will be behind the decisions of the government and its leader” and “Israel is my home and I do not intend to leave it.” The internal reliability of the scale was measured at Cronbach’s α = 0.90. (Kimhi et al., 2019). The measure of national resilience was computed by the average score for responses.

Posttraumatic Growth (PTG) was examined using the Questionnaire PTG-Inventory. The Hebrew translation by Laufer and Solomon (2006) of the original scale by Tedeschi and Calhoun (1996) was used. This questionnaire, with 21 statements on the lifestyle and feelings of the examinee, evaluates positive changes reported by a respondent that occurred following exposure to a traumatic event. Respondents are asked to respond to the following overall instructions: “For each of the following statements, state the extent to which this change has occurred in your life as a result of coping with the COVID-19 pandemic,” followed by a list of particular issues in the respondent’s life. Responses were scored on a 4-point Likert scale from 1 (no change) to 4 (significant change). The questionnaire has structural validity, internal consistency (for the overall score and for each scale separately), and test-retest reliability (Cronbach’s α = 0.92). The measure of posttraumatic growth was computed by the average of these items.

Data analyses were performed using SPSS Statistics 23 (IBM, 2015). We examined the descriptive statistics of the research sample and the main research variables. To test the research hypotheses, we used Spearman correlation analysis, one-way ANOVA analysis, and an independent sample t-test. To predict anxiety, personal and national resilience, posttraumatic growth, and the socio-demographic variables of the sample, a linear hierarchical regression analysis was performed.

Significance was set to *p* < 0.05.

**Results**

The results indicated that the level of concern for COVID-19 was moderate (M = 3.20+0.82), and the level of anxiety was relatively low (M = 1.50+0.49). The level of personal resilience was high (M = 3.09+0.61), and the level of national resilience was high (M = 3.44+0.66). The level of posttraumatic growth was moderate (M = 3.01+0.81) (Table 2).

Significant negative correlations were found between personal resilience and levels of concern (*rs* = -0.17, *p* < .05) and anxiety (*rs* = -0.24, *p* < .01), with a higher level of personal resilience associated with lower levels of concern and anxiety (Table 3). In addition, significant negative correlations were found between national resilience and levels of concern (*rs* = -0.21, *p* < .01) and anxiety (*rs* = -0.14, *p* < .05). Finally, we found a significant positive correlation between personal and national resilience (*rs* = 0.25, *p* < .01).

The results of a Spearman test on the relationships between personal and national resilience and posttraumatic growth are given in Table 4. A significant positive correlation was revealed between personal resilience and posttraumatic growth (*rs* = 0.24, *p* < .01). We also found a significant positive correlation between national resilience and posttraumatic growth (*rs* = 0.29, *p* < .01).

**Predictive model**

A linear hierarchical regression analysis was performed to predict anxiety, personal and national resilience, posttraumatic growth, and socio-demographic variables (Table 5). Some socio-demographic variables could significantly predict national resilience (*F* (8, 176) = 6.10, *p* < .01). The regression coefficients show that predictors of religion and religiosity had a significant positive contribution, adding 18% to the model variance. Being Jewish and having higher religiosity were related to higher national resilience. The regression for the prediction of posttraumatic growth and socio-demographic variables was significant (*F* (8, 176) = 3.61, *p* < .01). Religiosity and professional seniority had a significant positive contribution, adding 15% to the model variance. Higher religiosity level and higher professional seniority were related to higher posttraumatic growth (Table 6).

**Differences in concern, anxiety, personal and national resilience, and posttraumatic growth by country of origin**

Differences in concern, anxiety, personal and national resilience and posttraumatic growth between participants according to whether they were born in Israel or elsewhere were examined with an independent sample t-test (Table 7).

We found significant differences between participants according to their birthplace within or outside of Israel in posttraumatic growth (*t* (181) = 2.44, *p* < .05). The level of posttraumatic growth was significantly higher among participants who were born in Israel than among those born elsewhere. There were, however, no significant differences in concern, anxiety or personal/national resilience related to place of birth.

**Discussion**

The COVID-19 pandemic presents an unprecedented opportunity to study the impact on mental health nurses experiencing a shared trauma together with their clients. Both fear for their own personal safety and well-being, as well as for the health of those close to them. Like other nurses, mental health nurses are trapped between their desire to fulfil the professional roles that define them and give them meaning, despite the stresses of the workplace, and their desire to ensure the health of their families at home (Wu et al., 2020). Mental health nurses however, must manage both the pandemic’s stressors *and* the high degree of stress typical of their occupation. Building on other research (Baum, 2014), this study found that there are both negative and positive psychological effects on mental health nurses arising from such a shared traumatic reality.

In April 2020, in the middle of the first COVID-19 wave in Israel, when public and health workers were expressing significant concerns about the growing morbidity and mortality associated with the pandemic, Israeli mental health nurses expressed moderate levels of concern, and their level of anxiety was low. Their levels of personal and national resilience were high, and their level of posttraumatic growth was moderate.

Our findings differ from those of another study conducted in Israel at the same time. In a sample of 503 Israeli citizens drawn from the general population, Shapiro et al. (2020) found that almost a quarter expressed high or very high levels of anxiety or worry. This study, however, did not focus on health care workers. Reporting findings similar to ours, Kamet et al. (2021) focused on mental health nurses during the pandemic and found only mild rates of anxiety, and de Pinho et al. (2021) comparing mental health to non-mental health nurses found that mental health nurses experienced less depression, anxiety and stress and used more strategies to promote mental health during the pandemic than did other nurses. Collectively, these studies indicate that mental health nurses successfully manage significant stressors. To the extent that their success relies on their ability to deploy familiar self-care strategies to manage both workplace and society-wide stress, these findings reveal the importance of regular self-care professional training and personal development, especially as the foundation for work with clients in shared trauma reality (Day et al., 2017).

Resilience is an important factor in mental health nurses’ ability to cope with stressful situations (Itzhaki et al., 2015). It could explain the negative correlation between resilience and levels of concern and anxiety. Our finding showed similarities to resilience research in current pandemic (Kimhi et al., 2020) and among mental health nurses (Foster et al., 2019). Resilience is a good indicator of people’s ability to cope with various crises and threats (Kimhi et al., 2020).

In the COVID-19 context, the link between personal resilience, national resilience (NR) and posttraumatic growth (PTG) have not been deeply studied. This study revealed that personal resilience, NR and PTG were positively related to one another.

Recent studies show that resilience and PTG were positively correlated among nursing students and healthcare workers during the current COVID-19 pandemic (Yildiz, 2021; Kalaitzaki et al., 2021) However, Itzhaki et al. (2015) did not find a correlation between resilience and posttraumatic growth among mental health nurses who were exposed to violence. Adaptive coping strategies and resilience contribute to the development of PTG (Finstad et al., 2021). Apparently, this phenomenon explains our findings.

National resilience has not been examined among mental health nurses, However, our findings are comparable to those of Kimhi et al (2020), who found a negative correlation between national resilience and distress symptoms during the COVID-19 crisis in the Israeli general population (Kimhi et al., 2020). In Israel, during the COVID-19 pandemic, while the unemployment rate was very high, health-care workers were nevertheless strongly supported by the government and no nurses lost their jobs. Additionally, government provided special structures for children of healthcare workers, so they would not be concerned about closed schools and day care. althougha cannot be establishedFurther research is needed to support this explanation.

, with hbeing This finding is consistent with earlier studies indicating that people who have a greater capacity to bounce back from adversity are more likely to trust their national leaders and government institutions to resolve crises and maintain stability in the country (Callueng et al., 2020; Kimhi & Eshel, [2019](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7461071/" \l "jcop22438-bib-0033); Kimhi & Eshel, 2009)

To the best of our knowledge, the current study is the first to show a positive connection between national resilience and posttraumatic growth following COVID-19. Previous research argue that national resilience is the best predictor of posttraumatic recovery, in time of war (Kimhi & Eshel, 2009). A review of the literature indicates a rather small number of empirical investigations of national resilience and its association with antecedent variables (Kimhi & Eshel, 2019). More research is needed to examine this important issue.

This study’s finding of a moderate level of posttraumatic growth among nurses is consistent with the findings of several studies on nurses in a shared traumatic wartime reality (Lev-Wiesel et al., 2009), mental health nurses with exposure to violence (Ithaki et al., 2015), and frontline nurses during the COVID-19 pandemic (Chen et al., 2021; Pan Cui et al., 2021). Their role of being helpers, responsible for others, and needed by their clients at times of crisis, in addition to being acknowledged as an essential profession by the authorities and public, all served as sources of growth (Lev-Wiesel et al., 2009). Our results indicate that experiencing positive psychological change can coexist with a unique emergency like the COVID-19 pandemic.

In addition, our study found that the posttraumatic growth of mental health nurses is generally affected by religiosity and professional seniority. Although posttraumatic growth among mental health nurses is seldom examined, our findings are comparable to those of a meta-analysis that found clear relationships between religiosity and posttraumatic growth (Shaw et al., 2005), as well as those of a recent study conducted among nurses fighting COVID-19 that showed relationships between professional seniority and posttraumatic growth (Pan Cui et al., 2021). This could be attributed to additional years of abundant nursing and life experience, and of greater self-confidence and appreciation of life (Ogińska-Bulik et al., 2021). Shaw et al. (2005) highlighted the social support function of religious participation. These findings suggest that disaster survivors who identify as religious may tend to draw on their religion/spirituality to cope with disaster-related adversity, such as during the recent pandemic.

Finally, significantly greater posttraumatic growth was reported among participants born in Israel than among those born in another country. Immigrants presented worse mental health than non-migrants intimes of COVID (Solà-Sales et al., 2021) and were more likely to both report anxiety and to seek professional mental health services than were native-born Israelis during the COVID-19 pandemic (Shapiro et al., 2020). Alternatively, the lower level of posttraumatic growth among immigrant mental health nurses may be influenced by the trauma of migration, which is always accompanied by a loss of social support. Understanding the unique nature of immigration trauma is essential to developing effective strategies for enhancing posttraumatic growth among the general population (Berger & Weiss 2003).

**Limitations**

Data collection occurred at the height of the first wave, when the subjects experienced the peak of their work pressure and the uncertainty about the nature of COVID-19. As a result, their willingness and ability to respond to a survey was likely relatively limited. Additionally, those who did respond may have been either less pressured at work or the more resilient nurses.

**Conclusions**

The COVID-19 pandemic has added new challenges to the already stressful workplace, relational dynamics, and mechanisms of coping of mental health nurses. Little research has been published on this issue, and it would be useful for future research to focus on these nurses’ experiences and how they are affected by a shared traumatic realty.

Overall, this study describes the psychological effects of the COVID-19 pandemic among mental health nurses. These results highlight the importance of assessing psychological effects among mental health nurses, who are providing psychological assistance to clients who are themselves under severe psychological stress, intensified by the pandemic.

Health organizations should be sensitive to their nurses’ needs during crises, providing ongoing supervision and encouraging group support (Lev-Wiesel et al. 2009). Itzhaki et al. (2015) indicate the importance of enhancing staff resilience by increasing mental health nurses’ mutual support and commitment to each other.

Mental health nurses, like other health care workers, need mental support to enable them to care for their patients. To provide positive and constructive working conditions when under extreme stress, such as during the current pandemic, hospital and ward managers should encourage staff, support them, and be attentive to their concerns and needs, particularly those who are immigrants or non-Jews, and those with little professional experience. Organization and unit-level leadership support is critically important to nurse resilience. Nurse resiliency is important for maintaining nurses’ health and wellness as well as the quality of care they deliver (Jo, et al., 2021).

This study highlights critical factors in the work of mental health nurses during the major traumatic event of the COVID-19 pandemic. It is essential for clinical practice to learn and develop additional coping skills to increase resilience and posttraumatic growth. Doing so can better equip mental health nurses to care for themselves and their clients during times of a shared traumatic experience. Establishing and implementing more effective policies in the workplace may contribute to the development and implementation of more effective responses to traumatic events for mental health nurses and their clients.

References

Ballada, C. J. A., Aruta, J. J. B. R., Callueng, C. M., Antazo, B. G., Kimhi, S., Reinert, M., ... & Verdu, F. C. (2021). Bouncing back from COVID‐19: Individual and ecological factors influence national resilience in adults from Israel, the Philippines, and Brazil. *Journal of Community & Applied Social Psychology*.‏

Baum, N. (2014). Professionals’ double exposure in the shared traumatic reality of wartime: Contributions to professional growth and stress. *The British Journal of Social Work*, *44*(8), 2113-2134.‏

Berger, R., & Weiss, T. (2003). Immigration and posttraumatic growth-a missing link. *Journal of Immigrant & Refugee Services*, *1*(2), 21-39.‏

Brooks, S., Amlot, R., Rubin, G. J., & Greenberg, N. (2020). Psychological resilience and post-traumatic growth in disaster-exposed organisations: overview of the literature. *BMJ Mil Health*, *166*(1), 52-56.‏

Callueng, C., Aruta, J. J. B. R., Antazo, B. G., & Briones‐Diato, A. (2020). Measurement and antecedents of national resilience in Filipino adults during coronavirus crisis. *Journal of Community Psychology*, *48*(8), 2608-2624.‏

Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor–Davidson resilience scale (CD-RISC): Validation of a 10‐item measure of resilience. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *20*(6), 1019-1028.‏

Chen, R., Sun, C., Chen, J. J., Jen, H. J., Kang, X. L., Kao, C. C., & Chou, K. R. (2021). A large-scale survey on trauma, burnout, and posttraumatic growth among nurses during the COVID-19 pandemic. *International Journal of Mental Health Nursing*, *30*(1), 102-116.‏

Day, K. W., Lawson, G., & Burge, P. (2017). Clinicians' experiences of shared trauma after the shootings at Virginia Tech. *Journal of Counseling & Development*, *95*(3), 269-278.‏

de Pinho, L. G., Sampaio, F., Sequeira, C., Teixeira, L., Fonseca, C., & Lopes, M. J. (2021). Portuguese nurses’ stress, anxiety, and depression reduction strategies during the covid-19 outbreak. *International Journal of Environmental Research and Public Health*, *18*(7), 3490.‏Finstad, G. L., Giorgi, G., Lulli, L. G., Pandolfi, C., Foti, G., León-Perez, J. M., ... & Mucci, N. (2021). Resilience, Coping Strategies and Posttraumatic Growth in the Workplace Following COVID-19: A Narrative Review on the Positive Aspects of Trauma. *International Journal of Environmental Research and Public Health*, *18*(18), 9453.‏

Forte, G., Favieri, F., Tambelli, R., & Casagrande, M. (2020). COVID-19 pandemic in the Italian population: Validation of a post-traumatic stress disorder questionnaire and prevalence of PTSD symptomatology. *International Journal of Environmental Research and Public Health*, *17*(11), 4151.‏

Foster, K., Roche, M., Delgado, C., Cuzzillo, C., Giandinoto, J. A., & Furness, T. (2019). Resilience and mental health nursing: An integrative review of international literature. *International Journal of Mental Health Nursing*, *28*(1), 71-85.‏

Foster, K., Roche, M., Giandinoto, J. A., & Furness, T. (2020). Workplace stressors, psychological well-being, resilience, and caring behaviours of mental health nurses: A descriptive correlational study. *International Journal of Mental Health Nursing*, *29*(1), 56-68.‏

Foye, U., Dalton-Locke, C., Harju-Seppänen, J., Lane, R., Beames, L., Vera San Juan, N., ... & Simpson, A. (2021). How has COVID-19 affected mental health nurses and the delivery of mental health nursing care in the UK? Results of a mixed‐methods study. Journal of Psychiatric and Mental Health Nursing, 28(2), 126-137.

Fridenzon, S. (2011). *The effects of sleep disorders on mood states and empathic ability*. Unpublished master's thesis. Tel Aviv University.

IBM. (2015). *IBM SPSS statistics for Windows* (version 23.0) [Computer software].

Jo, S., Kurt, S., Bennett, J. A., Mayer, K., Pituch, K. A., Simpson, V., ... & Reifsnider, E. (2021). Nurses' resilience in the face of coronavirus (COVID‐19): An international view. Nursing & Health Sciences, 23(3), 646-657.‏

Itzhaki, M., Peles-Bortz, A., Kostistky, H., Barnoy, D., Filshtinsky, V., & Bluvstein, I. (2015). Exposure of mental health nurses to violence associated with job stress, life satisfaction, staff resilience, and post-traumatic growth. *International Journal of Mental Health Nursing*, *24*(5), 403-412.‏

Kalaitzaki, A., & Rovithis, M. (2021). Secondary traumatic stress and vicarious posttraumatic growth in healthcare workers during the first COVID-19 lockdown in Greece: The role of resilience and coping strategies. *ΕΛΛΗΝΙΚΗ ΨΥΧΙΑΤΡΙΚΗ ΕΤΑΙΡΕΙΑ* (*Greek Psychiatric Society*)*,* 32**,** 19.‏

Kameg, B. N., Fradkin, D., Lee, H., & Mitchell, A. (2021). Mental wellness among psychiatric-mental health nurses during the COVID-19 pandemic. *Archives of Psychiatric Nursing*.‏

Kimhi, S. (2016). Levels of resilience: Associations among individual, community, and national resilience. *Journal of Health Psychology*, *21*(2), 164-170.‏

Kimhi, S., & Eshel, Y. (2009). Individual and public resilience and coping with long-term outcomes of war 1. *Journal of Applied Biobehavioral Research*, *14*(2), 70-89.‏

Kimhi, S., & Eshel, Y. (2019). Measuring national resilience: A new short version of the scale (NR-13). *Journal of Community Psychology*, *47*(3), 517-528.‏

Kimhi, S., Marciano, H., Eshel, Y., & Adini, B. (2020). Resilience and demographic characteristics predicting distress during the COVID-19 crisis. *Social Science & Medicine*, *265*, 113389.‏

Lai, J., Ma, S., Wang, Y. et al. (2020). Factors associated with mental health

outcomes among health care workers exposed to covid 19 disease 2019. *JAMA*

*Network Open*, *3*(3), e203976-e203976.

Lahav, Y. (2020). Psychological distress related to COVID-19–the contribution of continuous traumatic stress. *Journal of affective disorders*, *277*, 129-137.‏

Laufer, A., & Solomon, Z. (2006). Posttraumatic symptoms and posttraumatic growth among Israeli youth exposed to terror incidents. *Journal of Social and Clinical Psychology*, *25*(4), 429-447.

Lev-Wiesel, R., Goldblatt, H., Eisikovits, Z., & Admi, H. (2009). Growth in the shadow of war: The case of social workers and nurses working in a shared war reality. *British Journal of Social Work*, *39*(6), 1154-1174.‏

Masiero, M., Mazzocco, K., Harnois, C., Cropley, M., & Pravettoni, G. (2020). From individual to social trauma: sources of everyday trauma in Italy, the US and UK during the COVID-19 pandemic. *Journal of Trauma & Dissociation*, *21*(5), 513-519.‏

Nuttman-Shwartz, O. (2016). Research in a shared traumatic reality: Researchers in a disaster context. *Journal of loss and trauma*, *21*(3), 179-191.‏

Ogińska-Bulik, N., Gurowiec, P. J., Michalska, P., & Kędra, E. (2021). Prevalence and determinants of secondary posttraumatic growth following trauma work among medical personnel: A cross sectional study. *European Journal of Psychotraumatology*, *12*(1), 1876382.

Pan Cui, P., Pan Wang, P., Wang, K., Ping, Z., & Chen, C. (2021). Post-traumatic growth and influencing factors among frontline nurses fighting against COVID-19. *Occupational and Environmental Medicine*, 78, 129-135.

Pruginin, I., Findley, P., Isralowitz, R., & Reznik, A. (2017). Adaptation and resilience among clinicians under missile attack: Shared traumatic reality. *International Journal of Mental Health and Addiction*, *15*(3), 684-700.‏

Shapiro, E., Levine, L., & Kay, A. (2020). Mental health stressors in Israel during the coronavirus pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*.‏

Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion & Culture*, *8*(1), 1-11.‏

Solà-Sales, S., Pérez-González, N., Van Hoey, J., Iborra-Marmolejo, I., Beneyto-Arrojo, M. J., & Moret-Tatay, C. (2021, September). The Role of Resilience for Migrants and Refugees’ Mental Health in Times of COVID-19. In *Healthcare* (Vol. 9, No. 9, p. 1131). Multidisciplinary Digital Publishing Institute.‏

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, *166*(10), 1092-1097.‏

Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455-471.

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological inquiry*, *15*(1), 1-18.‏

Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (Eds.). (1998). *Post-traumatic growth: Positive changes in the aftermath of crisis*. New-Jersey: Routledge.‏

Tosone, C. (Ed.). (2020). *Shared trauma, shared resilience during a pandemic: Social work in the time of COVID-19*. Springer Nature.‏

Vandenbroucke, J., von Elm, E., Altman, D., et al. (2007). Strengthening the reporting of observational studies in epidemiology (STROBE): Explanation and elaboration. *PLoS Med*, *4*, e297.

Wu, D., Jiang, C., He, C., Li, C., Yang, L., & Yue, Y. (2020). Stressors of nurses in psychiatric hospitals during the COVID-19 outbreak. Psychiatry research, 288, 112956.‏

Yildiz, E. (2021). Posttraumatic growth and positive determinants in nursing students after COVID-19 alarm status: A descriptive cross-sectional study. *Perspectives in Psychiatric Care*, 1-12. <https://doi.org/10.1111/ppc.12761>