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

Abstract

Mental health nurses must deal with patients undergoing mental health care as well as the uncertain outcomes of the global pandemic. This dual challenge, stemming from a shared trauma, has psychological effects on nurses. The study examined the psychological effects of the COVID-19 pandemic on mental health nurses in Israel. An online survey collected data from 183 Israeli mental health nurses. Survey topics included level of anxiety and concern, personal and national resilience and post-traumatic growth. The study reporting used the EQUATOR recommendations for quantitative cross-sectional research (STROBE). Nurses’ level of concern regarding COVID-19 was moderate (M = 3.20), and their level of anxiety was relatively low (M = 1.50). Significant negative correlations were revealed between personal resilience and levels of concern (*rs* = -0.17, *p* < .05) and anxiety (*rs* = -0.24, *p* < .01). Higher levels of national resilience were related to lower levels of concern (*rs* = -0.21, *p* < .01) and anxiety (*rs* = -0.14, *p* < .05). A significant positive correlation was found between assessments of personal resilience and of national resilience (*rs* = 0.25, *p* < .01). A significant positive correlation was found between personal resilience and post-traumatic growth (*rs* = 0.24, *p* < .01). In addition, a positive correlation was found between national resilience and post-traumatic growth (*rs* = 0.29, *p* < .01). Higher religiosity was connected with higher national resilience and higher professional seniority was related to higher post-traumatic growth. This study emphasizes the need for mental health policy supervisors to support mental health nurses by encouraging them and being attentive to their concerns. Special attention should be given to mental health who have immigrated to Israel, are non-Jews or have less professional experience.

Keywords: Shared trauma, COVID-19, Mental health nursing, National resilience, Post-traumatic growth.

Introduction

On March 11, 2020, The World Health Organization (WHO) declared COVID-19 to be a pandemic. By March 30, the disease had spread to much of the world (WHO 2020).

The COVID-19 pandemic has been experienced as a traumatic event (Forte et al. 2020). It has produced a heavy psychological impact among medical workers and the public (Lai 2020). Like other medical personnel, mental health nurses have responded diligently to the challenge posed by the pandemic.

Background

Mental health nurses routinely face concrete stressors and professional challenges in their workplace (Foster et al. 2019). Their stress comes from to their stressful mission, which includes dealing with patients with suicidal ideations and being exposed to verbal violence and physical violence as well, along with threats (Foster 2020).

During the pandemic, mental health nurses found themselves in an unparalleled situation, defined as a shared traumatic reality, one in which patients and therapists are simultaneously exposed to the same traumatic event (Baum 2010). The current state of affairs is different the mass trauma events that have been previously experienced by many, such as war situations or terrorist attacks. A person’s level of risk in war depends on geographical location. In the current global pandemic, the level of risk of infection is similar for therapists and patients alike, and consequently the levels of personal distress are similar.

Shared traumatic reality can cause damage, but it can also bring change. Studies have shown that a shared experience of a traumatic reality can lead to both positive and negative outcomes (Baum 2014). Nurses who work under a shared traumatic reality may perceive their work to be stressful and even traumatic. However, this reality may also spur post-traumatic 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).

Kalaitzaki et al. (2020) reported that post-traumatic growth and resilience (defined by a lack of post-traumatic stress disorder following trauma) are personal assets and resources that empower people to cope.

Resilience has been variously constructed as an individual ability, a collective one or an interactive process between the person and the environment (Foster 2019).

National resilience is a much broader concept than individual resilience, relating to the sustainability and resilience of the society in a wide range of fields (Kimhi 2016). The National Resilience Index uses four main social components: trust in the integrity of the government, the legislature and other national institutions, belief in social solidarity and patriotism (Ben-Dor et al. 2002).

To the best of our knowledge, the psychological effects of the COVID-19 crisis on mental health nurses have not been investigated. This examined the psychological effects of the COVID-19 pandemic on mental health nurses, who faced a shared traumatic reality and a stressful workplace.We hypothesize that, as in other traumatic events, the COVID-19 crisis has had negative and positive psychological effects on mental health nurses in this shared traumatic reality.

In this study, negative psychological effects were assessed through assessment of concerns and anxiety, and positive ones through their personal resilience, national resilience and post-traumatic 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: Research sample was 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 online survey was sent to the registered members of the Israeli Psychiatric Nursing Association. This survey instructions included information on the purpose and significance of the study. Nurses signalled their agreement with these 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 checked their concerns and anxiety. A questionnaire was developed for this study that assessed personal concern about the virus, for relatives and concern for economic and political situation. Examples items included: “How concerned are you about being affected 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 given on a Likert scale of 1-5.

The degree of anxiety was assessed by with the seven-item Generalized Anxiety Disorder scale GAD-7 (scores ≥ 10 indicate likely generalized anxiety disorder) (Spitzer, Kroenke, Williams, & Löwe, 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 post-traumatic growth. We used the shorted version of the Connor-Davidson Resilience Scale (CD-RISC) (Campbell-Sills and Stein 2007), a self-report questionnaire of 10 items, for personal resilience, taking the Hebrew translation by Fridenzon (2011). 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. Examples items were: “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.

Post-traumatic growth (PTG) was examined by the Questionnaire PTG-Inventory. The Hebrew translation by Laufer & Solomon (2006) of the original scale by Tedeschi and Calhhoun (1996) was used. This questionnaire evaluates positive changes reported by the respondent that occurred following exposure to a traumatic event. The questionnaire includes 21 statements on the lifestyle and feelings of the examinee. Responses to each statement indicate to what extent change has taken place in this regard in the respondent’s life, on a 4-point Likert scale (1 = no change, 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 post-traumatic 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, post-traumatic 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), and the level of anxiety was relatively low (M = 1.50). The level of personal resilience was relatively high (M = 3.09), and the level of national resilience was moderately high (M = 3.44). The level of post-traumatic growth was moderate (M = 3.01) (Table 2).

Significant negative correlations were revealed between personal resilience and levels of concern (*rs* = -0.17, *p* < .05) and anxiety (*rs* = -0.24, *p* < .01) (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, a significant positive correlation appeared 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 post-traumatic growth are given in Table 4.

A significant positive correlation was revealed between personal resilience and post-traumatic growth (*rs* = 0.24, *p* < .01).

We also found a significant positive correlation between national resilience and post-traumatic growth (*rs* = 0.29, *p* < .01).

**Predictive model**

A linear hierarchical regression analysis was performed to predict anxiety, personal and national resilience, post-traumatic 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 post-traumatic 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 post-traumatic growth.

**Differences in concern, anxiety, personal/national resilience and post-traumatic growth by country of origin**

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

We found significant differences between participants by birthplace in post-traumatic growth (*t* (181) = 2.44, *p* < .05). The level of post-traumatic growth was significantly higher among participants who were born in Israel than among those born elsewhere. There were no significant differences by this factor in concern, anxiety or personal/national resilience.

**Discussion**

The COVID-19 pandemic presents a unique opportunity to study the experience of mental health nurses experiencing a simultaneous dual trauma. These nurses are dealing with both the pandemic’s stressors and occupational stressors. They fear for their own personal well-being and for the health of those close to them. Nurses are trapped between the desire to work, continuing with their routine and fulfilling the role that defines them and gives them meaning, in spite of the stresses of the workplace, to and the desire to care for their children, parents and those left at home. Shared traumatic reality has both negative and positive outcomes (Baum 2014), and this study examines both. We found that COVID-19 crisis had negative and positive psychological effects on mental health nurses in this shared traumatic reality.

Thus, in April 2020, in the middle of the first COVID-19 wave in Israel, when public and health workers were expressing significant concerns about a new pandemic outbreak, the level of concern among Israeli mental health nurses was moderate, and their level of anxiety was relatively low. Their level of personal resilience was relatively high, the level of national resilience was moderately high and the level of post-traumatic growth was moderate.

Our findings differ from those of a study also conducted in Israel at the same time, which examined 503 Israeli citizens (Shapiro et al. 2020). However, that work included only the general population and did not focus on health care workers. In that study, almost a quarter of the sample expressed high or very high levels of anxiety or worry (Shapiro et al. 2020). Levels of anxiety and worry during the actual pandemic were not being checked among mental health nurses. Moreover, similar to our results, Dekel and Baum (2010) found that the level of distress among hospital social workers who provided emergency mental treatment to victims after terrorist attacks in Israel, was significantly lower than that in the general Israeli population. A similar trend was found among nurses and social workers in times of war (Lev-Wiesel et al. 2009). These findings may be related to the fact that mental health nurses as mental health professionals have sufficient therapeutic tools to enable them to cope with psychological distress.

Focused coping strategies (*positive re-evaluation*, *positive approach*, *problem solving*, and *seeking social support*) were the ones most commonly used by mental health nurses working in public psychiatric hospitals (Tasaras et al. 2018).

Pruginin et al. (2017) found that mental health professionals who share a traumatic reality under missile attack in Israel develop adaptive coping mechanisms to ensure functioning. Self-care is linked to a strong individual concept of resilience (Foster 2019). Itzhaki et al. (2015) showed that resilience is an important factor in mental health nurses’ ability to cope with stressful situations.

Our results showed that higher levels of personal and national resilience are related to lower levels of concern and anxiety. Although national resilience has not been examined among mental health nurses, our findings are comparable to those of Kimhi et al. (2020), who found a negative correlation between three resilience scales scores (individual, community and national resilience) and anxiety in following intensive terror attacks among the Israeli Jewish public. National resilience was significantly and negatively correlated with distress symptoms during the COVID-19 crisis (Kimhi et al. 2020). An integrative review of international literature examining resilience among mental health nurses has also found a negative correlation between personal resilience and anxiety in mental health nurses (Foster et al. 2019).

Following Kimhi and Eshel (2009), we found a significant positive correlation between personal resilience and national resilience. Higher levels of personal resilience were related to higher levels of national resilience. Kimhi and Eshel (2009) indicated that personal resilience and national resilience significantly predicted both stress symptoms and post-traumatic recovery (Kimhi and Eshel, 2009). This positive correlation is important both theoretically and practically, enabling preparation of the population For future pandemics and other catastrophes and large-scale interventions (Kimhi 2016).

Another positive result of this study that is distinct from the findings in the literature is in the relationship between personal resilience and post-traumatic growth. Studies of nursing students (Yıldız 2021) and healthcare workers (Kalaitzaki et al. 2021) in this pandemic have also revealed a positive correlation between resilience and post-traumatic growth. However, Itzhaki et al. (2015) did not find a correlation between resilience and post-traumatic growth among mental health nurses who were exposed to violence. Westphal and Bonanno (2007) argue that most people are resilient in the face of trauma, and resilient outcomes typically provide little need or opportunity for post-traumatic growth. A similar result was produced Levine et al. (2009), who examined resilience and post-traumatic growth in Israel. To the best of our knowledge, this is the first study to show a positive connection between national resilience and post-traumatic growth. Kimhi and Eshel (2009) argue that national resilience is the best predictor of post-traumatic recovery. The literature indicates a rather small number of empirical investigations of national resilience and its association with antecedent variables (Kimhi and Eshel 2019). Tedeschi and Calhoun (1996) suggested that increased numbers of traumatic experiences would result in more positive changes reported by these people. Following Tedeschi and Calhoun (1996), we suggest that the more traumatic experiences a nation has, the more positive changes their citizens report. Israel has experienced many traumatic events over the years, which may have led to national resilience.

This study shows a moderate level of post-traumatic growth among nurses. This 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 under COVID-19 (Pan Cui et al. 2021; Chen et al. 2021). Their role of being helpers, responsible for others and necessary for their patients at times of crisis in addition to being acknowledged as an essential profession by the authorities and public, became a source of growth (Lev-Wiesel et al. 2009). Our results indicate that experiencing positive psychological change can coexist with the unique emergency situation like COVID-19 pandemic.

In addition, our study found that the post-traumatic growth of mental health nurses is generally affected by religiosity and professional seniority. Although post-traumatic 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 post-traumatic growth (Shaw et al. 2005) and those of a recent study conducted among nurses fighting COVID-19 that shows relationships between professional seniority and post-traumatic growth (Pan Cui et al. 2021). This might be the result of additional years of rich 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. According to Pargament (1997), religious coping contributes something that supports a healthy response to situations in which subjects comes face to face with their limits and where their strength is confronted with vulnerability and finitude, such as in the recent pandemic.

Finally, significantly greater post-traumatic growth was reported among participants born in Israel than among those born in another country. This relationship is consistent with the findings of Shapiro et al. (2020) who found that immigrants were more likely to both report anxiety and seek professional mental health services than native-born Israelis under the COVID-19 pandemic. Bleich et al. (2006) also found that immigrants were less resilient to traumatic stress than native-born Israelis under long-term terrorism. Alternatively, the lower level of post-traumatic 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 post-traumatic growth (Berger & Weiss 2003).

**Limitations**

Data collection occurred at the height of the first wave, when the subjects were at the peak of their work, and therefore, their responsiveness was relatively limited.

**Conclusions**

The COVID-19 pandemic has brought additional challenges to the stressful workplace, relational dynamics and mechanisms of coping of mental health nursing. Little research has been published on this role. Future research should 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 patients themselves under severe psychological stress.

Health organizations should be sensitive to their nurses’ needs, providing ongoing supervision and encouraging groups support (Lev-Wiesel et al. 2009). Itzhaki et al. (2015) indicate that staff resilience should be increased by increasing mental health nurses’ commitment to each other.

Mental health nurses, like other health care workers, need mental support to allow them to care for their patients. To provide favourable working conditions under extreme stress, such as in the current pandemic, hospital and ward managers should encourage staff, support them and be attentive to their concerns and needs, particularly for immigrants, non-Jews and those with little professional experience. Ultimately, nurses cannot help patients rebound from adversity if they themselves are consumed by it (McGee 2006).

Relevance for Clinical Practice

This study highlights critical factors in the work of mental health nurses during the major traumatic event of the COVID-19 pandemic. It is very important as a clinical practice to learn and develop additional therapeutic coping tools to increase resilience and post-traumatic growth. This will help mental health nurses caring for themselves and their inpatients at a time of a shared traumatic experience. By establishing and implementing effective policies in the workplace, a more effective response may be mustered to traumatic events.

Funding Statement

This study was conducted without any specific funding.

Acknowledgment

The authors thank the mental health nurses who participated in this study.

Conflict of interest statement:

The authors declare no conflict of interest

Author Contributions:

SD, GL and RS provided the conception and design, the data acquisition and the analysis and interpretation of data and agree to be accountable for all aspects of the work, ensuring that questions regarding the accuracy or integrity of any part of the work are appropriately investigated and resolved. SD and GL drafted the manuscript. SD and RS acquired, analysed and interpreted the data. SD, GL and RS critically revised the manuscript for important intellectual content and gave ﬁnal approval to the submitted version.

References

1. Baum, N. (2010). Shared traumatic reality in communal disasters: Toward a conceptualization. *Psychotherapy: Theory, Research, Practice, Training*, *47*(2), 249.‏
2. 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.‏
3. Ben-Dor, G., Pedahzur, A., Canetti-Nisim, D., & Zaidise, E. (2002). The role of public opinion in Israel’s national security. *American Jewish Congress: Congress Monthly*, *69*(5), 13-15).‏
4. Berger, R., & Weiss, T. (2003). Immigration and posttraumatic growth-a missing link. *Journal of Immigrant & Refugee Services*, *1*(2), 21-39.‏
5. Bleich, A., Gelkopf, M., Melamed, Y., & Solomon, Z. (2006). Mental health and resiliency following 44 months of terrorism: A survey of an Israeli national representative sample. *BMC medicine*, *4*(1), 1-11.‏
6. 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.‏
7. 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.‏
8. Dekel, R., & Baum, N. (2010). Intervention in a shared traumatic reality: A new challenge for social workers. *British Journal of Social Work*, *40*(6), 1927-1944.‏
9. 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.‏
10. 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.‏
11. 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.‏
12. Fridenzon, S. (2011). *The effects of sleep disorders on mood states and empathic ability* (doctoral dissertation, master’s dissertation, Nursing Department, School of Health Professions).‏
13. IBM. (2015). *IBM SPSS statistics for Windows* (version 23.0) [Computer software].
14. 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.‏
15. Kalaitzaki, A. E., Tamiolaki, A., & Rovithis, M. (2020). The healthcare professionals amidst COVID-19 pandemic: A perspective of resilience and posttraumatic growth. *Asian Journal of Psychiatry*, *52*, 102172.‏
16. Kimhi, S. (2016). Levels of resilience: Associations among individual, community, and national resilience. *Journal of Health Psychology*, *21*(2), 164-170.‏
17. 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.‏
18. 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.‏
19. 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.‏
20. 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.
21. 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.
22. Levine, S. Z., Laufer, A., Stein, E., Hamama-Raz, Y., & Solomon, Z. (2009). Examining the relationship between resilience and posttraumatic growth. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *22*(4), 282-286.‏
23. 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.‏
24. 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.
25. Pargament, K. I. (2001). *The psychology of religion and coping: Theory, research, practice*. Guilford press.‏
26. 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.‏
27. Shapiro, E., Levine, L., & Kay, A. (2020). Mental health stressors in Israel during the coronavirus pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*.‏
28. Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion & Culture*, *8*(1), 1-11.‏
29. 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.‏
30. 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.
31. Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological inquiry*, *15*(1), 1-18.‏
32. Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (Eds.). (1998). *Post-traumatic growth: Positive changes in the aftermath of crisis*. Routledge.‏
33. Tsaras, K., Daglas, A., Mitsi, D., Papathanasiou, I. V., Tzavella, F., Zyga, S., & Fradelos, E. C. (2018). A cross-sectional study for the impact of coping strategies on mental health disorders among psychiatric nurses. *Health Psychology Research*, *6*(1).‏
34. 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.
35. Westphal, M., & Bonanno, G. A. (2007). Posttraumatic growth and resilience to trauma: Different sides of the same coin or different coins? *Applied Psychology*, 56(3), 417-427.‏
36. WHO (World Health Organization). Virtual press conference on COVID-19, 11 March 2020.
37. Yıldız, E. (2021). Posttraumatic growth and positive determinants in nursing students after COVID-19 alarm status: A descriptive cross‐sectional study. *Perspectives in Psychiatric Care*.‏

‏ **Table 1: Characteristics of the sample of** **mental health nurses (N = 183)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | |  | | ***Characteristic*** | |
| ***%*** | ***N*** | |  | |  | |
| 35.0%  65.0% | | 64  119 | | Male  Female | | Gender |
|  | |  | |  | |  |
| 55.7%  37.7%  3.8%  1.6%  0.5%  0.5% | | 102  69  7  3  1  1 | | Israel  Former USSR  America  Europe  Asia  Other | | Country of origin |
| 10.9%  2.2%  70.5%  13.7%  2.7% | | 20  4  129  25  5 | | Single  Lives with a partner  Married  Divorced  Widow | | Family status |
| 55.7%  4.9%  8.7%  47.5%  1.09% | | 69  9  16  87  2 | | RN  RN+ clinical course  Academic  Academic+ clinical course  RN, MA | | Nurse Education |
| 55.7%  21.3%  22.9% | | 102  39  42 | | Staff Nurse  Deputy Nurse or Head Nurse  Nursing Director | | Job description |
| 75.4%  16.9%  3.3%  0.5%  3.8% | | 138  31  6  1  7 | | Jewish  Muslim  Christian  Druze  Other | | Religion |
| 62.3%  28.4%  6.6%  2.7% | | 114  52  12  5 | | Secular  Traditional  Religious  Other | | Religiosity |
| 14.8%  7.7%  6.6%  13.1%  15.3%  19.7%  23.0% | | 27  14  12  24  28  36  42 | | Up to 5 years  6-10  11-15  16-20  21-25  26-30  30+ | | Professional seniority |

**Table 2: Descriptive statistics of the main research variables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Scale** | **M** | **SD** | **Range** |
| **Concern** | 1-5 | 3.20 | 0.82 | 1.13-5.00 |
| **Anxiety** | 1-4 | 1.50 | 0.49 | 1.00-4.00 |
| **Personal resilience** | 0-4 | 3.09 | 0.61 | 1.10-4.00 |
| **National resilience** | 1-5 | 3.44 | 0.66 | 1.23-5.00 |
| **Post-traumatic growth** | 0-5 | 3.01 | 0.81 | 0.64-4.77 |

**Table 3: Relationship between** **personal and national resilience, levels of concern and anxiety (N = 183)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **4** | **3** | **2** | **1** |  |
|  |  |  | **---** | **1. Personal resilience** |
|  |  | **---** | **.25\*\*** | **2. National** **resilience** |
|  | **---** | -.**21\*\*** | -**.17\*** | **3. Concern** |
| **---** | **.42\*\*** | -.**14\*** | -.**24\*\*** | **4. Anxiety** |

*p* < .05\*, *p* < .01\*

**Table 4: Relationship between** **personal and national resilience and post-traumatic growth (N = 183)**

|  |  |  |  |
| --- | --- | --- | --- |
| **3** | **2** | **1** |  |
|  |  | **---** | **1. Personal resilience** |
|  | **---** | **.25\*\*** | **2. National** **resilience** |
| **---** | .**29\*\*** | **.24\*\*** | **3. Post-traumatic growth** |

*p* < .01\*\*

**Table 5: Hierarchical regression for the prediction of national resilience and the socio-demographic variables**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Predictors** | | | | | |
| *R2* | ***p*** | ***t*** | ***β*** | ***SE*** | ***B*** |  |
| 0.18 | 0.32  0.24  0.23  0.01  0.02  0.37  0.32 | -0.98  1.17  -1.19  **2.72\*\***  **2.45\***  0.89  0.98 | -0.07  0.15  -0.09  0.23  0.20  0.11  0.07 | 0.11  0.01  0.10  0.13  0.08  0.04  0.10 | -0.11  0.01  -0.12  0.37  0.21  0.04  0.10 | Gender (1 = male)  Age  Birth country (Israel)  Religion (Jewish)  Religiosity  Professional seniority  Administrative (1 = yes)  \_\_\_\_\_\_\_\_\_\_\_ | |

*p < .01\*\**

**Table 6: Hierarchical regression for the prediction of post-traumatic growth and socio-demographic variables**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Predictors** | | | | | |
| *R2* | ***p*** | ***t*** | ***β*** | ***SE*** | ***B*** |  |
| 0.15 | 0.35  0.59  0.84  0.56  0.00  0.04  0.60 | 0.92  -0.52  0.19  -0.58  **3.60\*\***  **2.04\***  0.51 | 0.07  -0.07  0.02  -0.05  0.30  0.26  0.04 | 0.13  0.01  0.12  0.16  0.10  0.05  0.14 | 0.12  -0.01  0.02  -0.09  0.38  0.10  0.06 | Gender (1 = male)  Age  Birth country (Israel)  Religion (Jewish)  Religiosity  Professional seniority  Administrative (1 = yes)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

*p < .01\*\**

**Table 7: Differences in concern, anxiety, personal/national resilience and post-traumatic growth by country of origin (N = 183)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Born in another country**  **N = 81** | | **Born in Israel**  **N = 102** | |  |
| **T** | **SD** | **M** | **SD** | **M** | **Measure** |
| 1.39 | 0.83 | 3.10 | 0.80 | 3.27 | **Concern** |
| 0.03 | 0.44 | 1.50 | 0.53 | 1.50 | **Anxiety** |
| 0.69 | 0.66 | 3.05 | 0.57 | 3.12 | **Personal resilience** |
| **-**1.39 | 0.61 | 3.52 | 0.70 | 3.38 | **National resilience** |
| **2.44\*** | 0.85 | 2.85 | 0.76 | 3.14 | **Post-traumatic growth** |

*p* < .05\*, *p* < .01\*\*

Dear Prof. Kim Usher,

Editor, *International Journal of Mental Health Nursing*

Attached please find our original manuscript “Shared Trauma During the COVID-19 Pandemic: Psychological Effects on Israeli Mental Health Nurses.”

In our study, we focused on the psychological effects on Israeli mental health nurses’ of dealing with mental health patients during the COVID-19 pandemic. We foundsignificant 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 a positive correlation was found between personal resilience and national resilience. A significantly positive correlation was found between personal resilience and post-traumatic growth. In addition, a positive correlation was found between national resilience and post-traumatic growth. Finally, higher religiosity was connected to higher national resilience, and higher professional seniority was related to higher post-traumatic growth. The paper sheds light on mental health nurses’ shared trauma during COVID-19 from a new perspective.

We believe that this article will be of interest for researchers, educators and health care policy makers in the clinical fields of mental health and welfare.

None of the data has been previously published or is under consideration for publication elsewhere. As the principle author, I declare full responsibility for the data, the analyses and interpretation and the conduct of the research, and I have the right to publish any and all data. This study was performed with the approval of the IRB of Lev-Hasharon Mental Health Center, as stated in the Methods.

We thank you for considering our manuscript as an original article for publication in *International Journal of Mental Health Nursing.*

Kind regards,

Sagit Dahan, Galit Levi and Dr. Ronen Segev

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

|  |  |  |
| --- | --- | --- |
|  | **Item**  **No** | **Recommendation** |
| **Title and abstract** | 1 | 1. “The study reporting using the EQUATOR recommendations for quantitative cross-sectional research (STROBE).” 2. “Survey conducted anxiety and concern degree, personal and national resilience and post traumatic growth.” “Significant negative correlations revealed between personal resilience and levels of concern (*rs* = -0.17, *p*<.05) and anxiety (*rs* = -0.24, *p*<.01). Higher level of national resilience was related to lower levels of concern (*rs* = -0.21, *p*<.01) and anxiety (*rs* = -0.14, *p*<.05) .significant positive correlation was found between personal resilience and national resilience (*rs* = 0.25, *p*<.01). A significant positive correlation was found between personal resilience and post-traumatic growth (*rs* = 0.24, *p*<.01). In addition, a positive correlation was found between national resilience and post-traumatic growth (*rs* = 0.29, *p*<.01).” |
| **Introduction** |  |  |
| Background/rationale | 2 | “In the current global pandemic, the level of risk of infection is similar for the therapists and patients, and consequently the level of personal distress.  Shared traumatic reality can cause damage, but it also has the potential for change. Studies have shown that a shared traumatic reality can lead to both positive and negative outcomes (Baum, 2014).” |
| Objectives | 3 | “We hypothesize that, as in other traumatic events, covid-19 crisis will have negative and positive psychological effects on mental health nurses in shared traumatic reality.” |
| **Methods** |  |  |
| study design | 4 | “A cross-sectional study was carried out” |
| Setting | 5 | “The study carried out between April 1st to 30th, 2020.” |
| Participants | 6 | “Research sample included 183 mental health nurses, all members of the Psychiatric Nursing Association in Israel. Participants were mental health nurses from Israeli mental health centers, psychiatric wards in general hospitals, and community mental health nurses.” |
| Variables | 7 | “Survey conducted anxiety and concern degree, personal and national resilience and post traumatic growth”. |
| Data sources/  measurement | 8 | All questionnaires, their sources and their reliabilities are described in the methods section. |
| Bias | 9 | Potential biases are described in the study limitations section. |
| Study size | 10 | The number of participants depended on the number of nurses interested in responding to the survey. The survey was sent anonymously to all nurses, so sample size was not calculated prior to the study. |
| Quantitative variables | 11 | Each questionnaire received a score, and the scores were used in the analyses. |
| Statistical methods | 12 | Data analysis were performed using SPSS Statistics 23 (IBM, 2015). We examined descriptive statistics of the research sample and of the main research variables. In order to examine the research hypothesis, we used a Spearman correlation analysis, One-Way ANOVA analysis, and an independent sample t-test. In order to predict anxiety, personal and national resilience, post-traumatic growth and the socio-demographic variables of the sample, a linear hierarchical regression analysis was performed. A significance level of p = 0.05 was used. |
| **Results** |  |  |
| Participants | 13 | Because the study took place at only one time point, no dropouts were reported. |
| Descriptive data | 14 | Demographic data are described in the first part of the results. All participants completed the entire survey; no data were missing. |
| Outcome data | 15 | Outcome events are described in the first part of the results. |
| Main results | 16 | The main results are found in the results section. |
| Other analyses | 17 | A hierarchical regression was completed and is described in the last part of the results. |
| **Discussion** |  |  |
| Key results | 18 | “As we expected, we found that COVID-19 crisis had negative and positive psychological effects on mental health nurses in shared traumatic reality.” |
| Limitations | 19 | “Data collection occurred at the height of the first wave in which the nurses were at the peak of their work and therefore responsiveness was relatively limited.” |
| Interpretation | 20 | This is presented in the discussion. |
| Generalizability | 21 | This is described in the presentation of the relevance of the study for clinical practice. |
| **Other information** |  |  |
| Funding | 22 | No funding was provided for this study. |