Review Article

Clinical practice review on post-traumatic growth among healthcare professionals post COVID-19 and the facilitation of health outcomes for the patient and client population group

Michael S. Leeman, Linda Collins^

Department of Health and Human Sciences, College of Nursing and Health Sciences, Southeastern Louisiana University, Hammond, LA, USA

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Correspondence to: Dr. Michael S. Leeman, PhD, LPC. Assistant Professor of Counseling, Department of Health and Human Sciences, College of Nursing and Health Sciences, Southeastern Louisiana University, 310 W Dakota Street, SLU Box 10863, Hammond, LA 70402, USA. Email: michael.leeman@selu.edu.

Abstract: The coronavirus disease 2019 (COVID-19) pandemic had a physical and psychological impact on many healthcare professionals, especially for frontline workers and allied health professionals, experiencing some degree of trauma. A significant proportion of healthcare workers reported traumatic stress and symptoms of post-traumatic stress disorder because of the pandemic. Post-traumatic growth has been defined as a positive psychological change that may occur when individuals encounter a traumatic experience, a crisis, or a highly stressful event. The need for social support, resilience and adaptive coping strategies are associated with experiences of post-traumatic growth, and healthcare professionals are an essential population group that are at the forefront of this traumatic concern. The aim of this clinical practice review was to explore the impact of post-traumatic growth among healthcare professionals post COVID-19 and its impact on the facilitation of health outcomes for the patient and client population group. We searched the National Library of Medicine (NLM) database for publications dated between August 2022 and August 2023. We gathered key data on post-traumatic growth among healthcare professionals post COVID-19 and health outcomes for the patient and client population group from several countries around the world. Post-traumatic growth among healthcare professionals is a concern and there is a need for evidence-based programs that help healthcare professionals overcome the challenges of work-based trauma that could hinder health outcomes for the patient and client population group.

Keywords: Coronavirus disease 2019 (COVID-19); healthcare; post-traumatic growth; outcomes

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Introduction

The coronavirus disease 2019 (COVID-19) pandemic had a physical and psychological impact on many healthcare professionals, especially for frontline workers and allied health professionals, experiencing some degree of trauma (1). A significant proportion of healthcare workers reported traumatic stress and symptoms of post-traumatic stress disorder (PTSD) because of the pandemic (2). The outcome of trauma is exhibited in various ways such as post-traumatic stress to growth and positive emotions (3). Post-traumatic stress has had an impact on psychological growth,

^ ORCID: 0000-0002-9826-5749.

causing a debilitating negative effect on mental health with increases in anxiety, depression, and post-traumatic stress among healthcare professionals and members of the general population (4). The varied definitions of post-traumatic growth have led to the understanding that there is not one definitive description, but rather an array of concepts that arise from the term post-traumatic growth. According to Meyerson *et al.* post-traumatic growth has been defined as a positive psychological change that may occur when individuals encounter a traumatic experience, a crisis, or a highly stressful event (5). Post-traumatic growth has also been defined as reduced psychological growth reported by individuals who have experienced a traumatic event at any point during their lifetime, and fueled by humans' innate need to sustain and improve their health and wellbeing (6). The symptoms of reduced psychological growth have been evidenced by reexperiencing traumatic events through intrusive memories or flashbacks, avoiding trauma-related stimuli, negative changes in mood and cognition including fear, sadness, guilt, or emotional numbing (7). Contrary, psychological growth is identified as a consequence following adversity in life that challenges the pre-trauma perspectives and views that shape a person's belief, goals or assumptions about everyday life (8). The need for social support, resilience and adaptive coping strategies are associated with experiences of post-traumatic growth (9), and healthcare professionals are an essential population group that are at the forefront of this traumatic concern. There is evidence that suggests self-expression through written or spoken words, cognitive behavioral therapy and novel psychological therapies are effective interventions for facilitating post-traumatic growth (10), but the effectiveness of these inventions for healthcare professionals who promote health outcomes for patients and clients' needs further exploration. The assumption that traumatic experiences may challenge or even shatter one's core beliefs about self, others, and the world (11), could hinder healthcare workforce productivity leading to compromised health outcomes for the patient and client population group. The aim of this clinical practice review was to explore the impact of post-traumatic growth among healthcare professionals post COVID-19 and its impact on the facilitation of health outcomes for the patient and client population group.

Methods

Methodology

We evaluated evidence-based findings from studies that had a primary focus on post-traumatic growth among healthcare professionals post COVID-19 and the facilitation of health outcomes for patients and clients. We also included evidence-based perspectives from countries that recognized post-traumatic growth as a fundamental concern among healthcare professionals delivering care to patients and clients. This clinical practice review was guided by the following questions: what impact does post-traumatic growth have on healthcare professionals? Does post-traumatic growth hinder the facilitation of care and health outcomes for the patient and client population group? What coping strategies are used to promote post-traumatic growth?

Search strategy

This clinical practice review was constructed using the National Library of Medicine (NLM) database. This database was a credible source for obtaining manuscripts that focused on the topic being explored. The search was conducted using an interprofessional approach that focused on a variety of different healthcare professionals. The following search terms were post-traumatic growth, COVID-19, healthcare, and outcomes were inserted into the database combined with Boolean search operators AND and OR. These search terms were used to identify specific manuscripts that focused on the topic being studied. We searched the NLM database for publications dated between August 2022 and August 2023, to examine the most current clinical perspectives on post-traumatic growth among healthcare professionals post COVID-19 and focused on the facilitation of health outcomes for the patient and client population group. *Table 1* was developed to extract data from the reviewed publications for their outcome data, strengths, limitations, and the impact of post-traumatic growth among healthcare professionals post COVID-19. Both authors revisited the titles and abstracts of the selected publications to ensure that each manuscript selected were in accordance with the objectives of the clinical practice review, and to ensure the publications were available in full text to review the findings.

Eligibility criteria

Inclusion criteria

Articles were included if they were peer reviewed publications, with full text access and related to post-traumatic growth among healthcare professionals post COVID-19, published within the past 12 months and focused on the facilitation of health outcomes for the

Table 1 Publications included within the clinical practice review

Author/year study published/reference	Country	Publication/method	Outcome	Strengths and limitations of post-traumatic growth
Barnicot *et al.*, 2023 (12)	United Kingdom	Survey	Working in a clinical role and in mental healthcare or community physical healthcare predicted lower post-traumatic growth	Strengths: valuing staff's cultural and religious identity and encouraging self-reflective activities, such as mindfulness and meditation, may help to promote post-traumatic growth Limitations: further potential predictors of post-traumatic growth, such as religiosity, coping skills and post-traumatic stress, should be tested
Gesi *et al.*, 2023 (13)	Italy	Survey	A female, with previous mental disorders, job seniority, unusual exposure to sufferance increased the provisional PTSD and post-traumatic growth	Strengths: there is evidence that the COVID-19 pandemic contributed to factors that may significantly impact PTSD development and post-traumatic growth Limitations: longitudinal studies are warranted to investigate the consistency of our findings across the later phases of the pandemic, especially regarding post-traumatic growth
Han *et al.*, 2022 (14)	South Korea	Survey	It is possible that there are differences in nurses' growth factors after trauma when they first encounter a new infectious disease	Strengths: programs that encourage self-disclosure and deliberate rumination, help promote post-traumatic growth Limitations: new infectious diseases may appear in the future; it is important to secure policy support to over post-traumatic growth
O'Donovan and Burke, 2022 (15)	Ireland	Systematic review of the literature	There are a variety of psychological interventions that can be used in healthcare to cultivate post-traumatic growth	Strengths: novel perspectives on individual factors that contribute to work-related post-traumatic growth Limitations: further research is required to draw definite inferences
Sandrin *et al.*, 2022 (16)	France	Longitudinal study	Mediation analyses indicate that psychological safety climate has a direct and positive influence on post-traumatic growth	Strengths: psychological safety climate has an indirect positive influence on performance via psychological distress Limitations: longitudinal and experimental studies should be conducted to confirm and generalize the results on post-traumatic growth
Salmani *et al.*, 2023 (17)	Iran	A cross-sectional study	Workplace, department, work experiences, and employment status were the predictors post-traumatic growth	Strengths: leaders should pay attention to post-traumatic growth and the factors influencing it and offer solutions to retain mental health Limitations: limiting social support and professional psychological intervention are applied to further improve the post-traumatic growth levels
Yılmaz-Karaman *et al.*, 2023 (18)	Turkey	Survey	The exposure to the stressors continues, individual traumatic stress levels increase, psychiatric disorders become frequent, and affirmative changes (like post-traumatic growth) decline	Strengths: screening employees for common mental disorders may be helpful during stressful conditions Limitations: data was not enough to detect the differences in depression, anxiety, and post-traumatic stress

PTSD, post-traumatic stress disorder; COVID-19, coronavirus disease 2019.

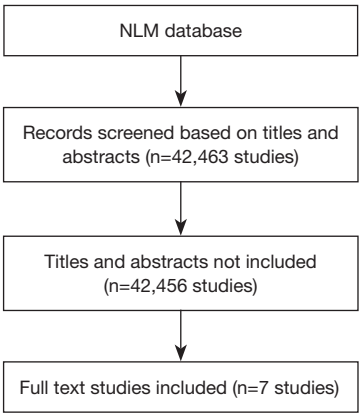

Figure 1 Literature retrieval flow diagram. NLM, National Library of Medicine.

patient and client population group.

Exclusion criteria

The publications that did not have direct relevance to the clinical practice review or focused on the related questions and inclusion criteria were excluded.

Results

Characteristics of included studies

There were a limited number of publications retrieved due to the publication date and the specifics of the topic being reviewed. A total of seven publications in full text were accessed from the NLM database. The seven papers were selected based upon their relevance, the key search criteria and provided data for this review. *Figure 1* illustrates the literature retrieval process. Of the seven publications included within this review, four were surveys (12-14,18), one was a systematic review of the literature (15), a cross sectional study (17) and a longitudinal study (16). Findings from these studies demonstrated the importance of recognizing post-traumatic growth among healthcare professionals post COVID-19 and the approaches of promoting health outcomes for themselves and the patient and client population group (*Table 1*).

Discussion

The impact of post-traumatic growth on healthcare professionals

Instances of crises experienced by healthcare professionals, such as those instigated by the COVID-19 pandemic, produce an increase in mental health issues including elevated workload, burnout, risk of infection transmission, increased patient mortality, and insufficient protective equipment (19-21), as well as anxiety, depression, and post-traumatic stress (16). However, such instances also can present transformational opportunities for healthcare professionals and their organizations in the form of post-traumatic growth, which is a set of positive psychological changes that can occur post trauma (8). Post-traumatic growth is both a process and an outcome by which individuals attempt to cope with extremely stressful life events and reevaluate their worldview to give meaning to their experiences and develop new resources and perspectives. The five major areas in which individuals may experience growth are personal strength, new possibilities in life, relationships with others, appreciation of life, and spiritual change (8).

Healthcare professionals not only experienced increases in daily life stress due to the COVID-19 pandemic, but also endured the increased suffering of their peers and patients making them more vulnerable to anxiety, depression, burnout, and post-traumatic stress (17). Conversely, the greater the suffering, the more opportunity there is to experience increases in growth. In a study of perceived stress, coping strategies, and post-traumatic growth among 402 Iranian healthcare professionals working the morning, evening, and night shifts in a public hospital and ten health centers (17), perceived stress was higher than the general level of society during the COVID-19 pandemic (*Table 1*). No significant relationship was found between post-traumatic growth and coping strategies. Levels of post-traumatic growth were low to moderate, which was attributed to department, workplace, work experience, and employment status.

Moreover, in a study of 854 community and mental healthcare clinical and nonclinical staff across four National Health Service (NHS) Trusts in England, two mental health care trusts in semi-rural locations and two mental health and community care trusts based in urban inner London locations (12), the levels of post-traumatic growth was lower than in a sample of frontline COVID-19 nurses in Wuhan, China, which were comparable to a group of Iraq war veterans (12) (*Table 1*). Positive self-reflection activities among black and minority ethnic groups, were independent contributors to post-traumatic growth (12). Acquiring new knowledge and skills in clinical or mental healthcare, connecting with others, feeling supported by

senior management in the community, and experiencing less anxiety about the personal and professional consequences of COVID-19, each significantly predicted greater post-traumatic growth (12). However, working in a clinical role, within mental healthcare or community health, predicted lower post-traumatic growth (12). Comparably, a study investigated the post-traumatic stress experienced by 250 nurses working at three COVID-19 hospitals in Seoul, South Korea and the post-traumatic growth factors that helped them to overcome that stress (14) (*Table 1*). Factors that contributed to post-traumatic growth were marriage, religion, self-disclosure, deliberate rumination, meaning in life, and resilience (14).

In a study of 66 frontline healthcare professionals at Eskişehir Osmangazi University Hospital in Turkey (18), levels of traumatic stress, anxiety, depression, and post-traumatic growth were evaluated during the pandemic. Additionally, as the exposure to stressors continued, individual traumatic stress levels increased, psychiatric disorders became more frequent, and positive changes such post-traumatic growth declined. However, no significant differences appeared between the initial levels and 6-month follow-up in the depression, anxiety, and traumatic stress of health care workers. Furthermore, the post-traumatic growth levels decreased significantly over time. Though post-traumatic growth levels varied ranging from low to moderate, these studies suggest that post-traumatic growth is possible and does occur when certain factors are present.

Post-traumatic growth and the facilitation of care and health outcomes for the patient and client population group

The precipitous spread of COVID-19 resulted in a range of psychiatric symptoms for hospitalized patients. In addition to both newly diagnosed patients and patients undergoing treatment, discharged COVID-19 survivors exhibited a variety of mental health issues, including PTSD, depression, anxiety, insomnia, and obsessive-compulsive symptoms when reevaluated at follow-up (22). However, the psychological contributors of post-traumatic growth of discharged COVID-19 survivors have been narrowly explored.

In a study of 140 discharged COVID-19 patients, 75 female and 65 male individuals with a mean age 43.47 years, in Hunan Province, China (22), it was found that post-traumatic growth was associated with self-esteem, anger, PTSD, coping, and social support, but was negatively related to anger and time from onset to diagnosis. Those patients with PTSD symptoms, healthy self-esteem, coping, and social support, less anger, and short diagnosis time exhibited higher levels of post-traumatic growth. This study suggests that increasing self-esteem, positive coping, fortifying social support, and reducing anger and shortening the diagnosis time may contribute to post-traumatic growth. Likewise, a qualitative study of 40 confirmed COVID-19 patients (19–68 years old) from a designated hospital in Shanghai, China (23) revealed post-traumatic growth in the form of greater appreciation of life and re-examining personal values and life goals, establishing and maintaining closer relationships with family and friends, a greater willingness to help others, and increased personal growth and awareness of personal health. Positive outcomes of COVID-19 patients could be helpful in the development and implementation of interventions to facilitate post-traumatic growth among COVID-19 survivors. Individualized psychological interventions could help to buffer psychological suffering and foster post-traumatic growth following COVID-19 hospitalization.

Coping strategies used to promote post-traumatic growth

Though negative outcomes of healthcare professionals and their patients during the COVID-19 pandemic are well documented, studies on positive outcomes such as post-traumatic growth are sparse. Despite varying levels of post-traumatic growth reported worldwide, studies suggest that post-traumatic growth is possible and does occur when certain factors are present. Amongst the factors that are reported to be consistent contributors to post-traumatic growth are resilience (14), coping (17), deliberate rumination (14), social support and cultural and organizational support (12,14-16) (*Table 1*).

Resilience is the ability to overcome extremely stressful events and remain psychologically healthy despite suffering adversity (24). The research on post-traumatic growth and resilience is somewhat inconsistent. Some studies found a negative relationship between post-traumatic growth and resiliency (25,26), which may suggest that highly resilient individuals are buffered from the effects of trauma reducing the need for growth. Conversely, other studies found a positive relationship between post-traumatic growth and resiliency and suggest that as post-traumatic growth increases, the characteristics of resilience also increase (27-30). A longitudinal study of Chinese frontline healthcare workers in the only COVID-19-designated hospital in Shenzhen, China during the COVID-19 pandemic measured resilience and post-traumatic growth

over three different time periods (31). Results revealed that resilience during the first period predicted post-traumatic growth during the second period, which subsequently predicted resilience during the third period. In addition, post-traumatic growth during the first period predicted resilience during the second period. These findings suggest a reciprocal relationship between resilience and post-traumatic growth over time. Resources and skills associated with more positive adaptation such as resilience may be cultivated and practiced facilitating post-traumatic growth. Resilience factors of healthcare workers who reported post-traumatic growth included high health status and high job satisfaction. Healthcare workers who are satisfied with their jobs and find their work worthwhile may be less likely to develop mental health problems and more prepared to experience resilience and post-traumatic growth.

Coping refers to the cognitive, affective, and behavioral responses to stress that help individuals manage, eliminate, or avoid a particular stressor and reduce stress (32). Different methods of coping include problem-focused coping, emotion-focused coping, and avoidant coping (33). Problem-focused coping is the active attempt to manage the stressor to deal with the stress. Emotion-focused coping is the attempt to manage emotions associated with the stressor to control the stress. Avoidant-coping is the attempt to escape the stressor to control the stress. Emotion-focused and avoidant-coping are considered passive attempts to cope compared to problem-focused coping.

Emotion-focused coping is strongly associated with psychological distress and depression (34), while avoidant-coping is associated with emotional exhaustion and depersonalization (35). Similarly, a study showed poor mental health of Japanese healthcare workers who utilized avoidant-coping strategy (36). Additionally, in a study of 2,166 healthcare workers from 32 low- and middle-income countries (36% doctors, 24% nurses and 40% other healthcare positions), factors such as family support and positive thinking were the most often used coping methods during the COVID-19 pandemic. Other factors included worship and prayer as well as adequate sleep and nutrition, and interprofessional teamwork (37).

Rumination is a kind of active coping that is constructive and associated with lower depression over time (38). Ruminating thoughts that follow a traumatic or stressful event are often reported to be both intrusive and negative and are associated with higher levels of depression. However, deliberate rumination, or cognitive processing, is focused on dealing with the situation. Deliberate rumination that occurred shortly after trauma exposure was found to be positively associated with post-traumatic growth (39). Likewise, in a systematic review of the literature, there were 27 papers that assessed post-traumatic growth among healthcare professionals, nurses who engaged in deliberate rumination by purposefully reflecting about what they learned from their experiences during the COVID-19 pandemic experienced post-traumatic growth (15). Findings highlight the importance of supporting COVID-19 survivors to engage in the deliberate cognitive processing of their experiences to promote post-traumatic growth and promote health outcomes of their patients and clients.

Research indicates that supportive relationships, or social support, are associated with increased post-traumatic growth (40) and provide different viewpoints that facilitate the meaning-making process (8). However, research shows that the type of support individuals receives following a disaster is an important factor (17). A study of post-traumatic growth and 199 earthquake survivors in China assessed after 7 months and again after 31 months revealed that greater amounts of social support contributed to higher levels of post-traumatic growth for survivors who found the support to be high quality and contributed to lower levels of post-traumatic growth for survivors who found the support to be lower quality (41). This study emphasizes the importance of quality support over quantity of support.

Additionally, the timing of support can influence positive outcomes. Social support was sought out more frequently for healthcare workers with poor mental health than those with good mental health (36), which may suggest that healthcare workers may wait until they are in distress before seeking help from others. It may be beneficial to have social and institutional support factors in place before traumatic events occur to prevent burnout, increase the potential for post-traumatic growth and facilitate positive health outcomes for those receiving healthcare. A study of 266 nurses who faced the COVID-19 emergency in Hubei Province, China found a significant positive correlation between social support and post-traumatic growth indicating that nurses with high level of social support could obtain high post-traumatic growth and better delivery of patient care (42).

Implications for professional practice

Studies reveal that the COVID-19 pandemic had a significant physical and psychological impact on healthcare professionals experiencing some degree of psychological

trauma, especially for frontline workers. Reports from healthcare professionals worldwide emphasize the need for post-traumatic growth interventions to draw on both individual and organizational factors to support the psychological wellbeing of their workers. Examining the impact of organizational culture in clinical settings is essential for understanding how healthcare professionals experience post-traumatic growth. When healthcare organizations fail to establish adequate support systems for professionals dealing with trauma, they may inadvertently foster a culture that normalizes such experiences. It is essential to consider the broader, contextual factors that influence post-traumatic growth as this can play a valuable role in creating a work environment supportive of post-traumatic growth. Seeking social support includes not only seeking emotional support but also practical and informational support from colleagues and institutions to promote post-traumatic growth. It is essential that institutional leaders develop better practices, policies, and procedures to provide workers with a psychologically safe environment. Encouraging workers to embrace opportunities for personal growth, valuing staff's cultural and religious values and promoting self-reflective activities, such as mindfulness and meditation, may help to promote post-traumatic growth. Future research should focus on the exploration of support systems within healthcare institutions, such as providing psychoeducation, opportunities for cognitive processing with supportive others, and fostering increased relational support within healthcare teams.

Limitations

The number of publications retrieved and that were specific to the inclusion criteria were limited. This was because of the publication date and the scope of professional practice being explored. As a result, may not have given a comprehensive insight on whether post-traumatic growth among healthcare professionals post COVID-19 has an impact on health outcomes for the patient and client population group. However, the additional supporting literature have highlighted the significance of effective leadership, coping strategies, and delivering support programs that help promote post-traumatic growth among healthcare professionals.

Conclusions

The available literature on post-traumatic growth among healthcare professionals post COVID-19 and the facilitation of health outcomes for the patient and client population group has demonstrated the need for further exploration. Undoubtedly, there is a need to monitor and evaluate the effectiveness of support programs and psychological interventions that help healthcare professionals deliver effect care to patient and clients to promote positive health outcomes now and in the future.

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Footnote

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Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at https://jhmhp.amegroups.com/article/view/10.21037/jhmhp-23-111/coif). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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