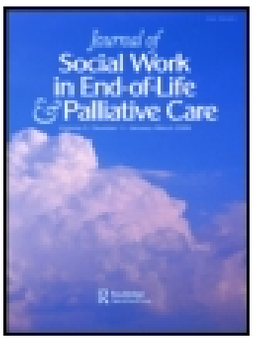

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Vicarious Posttraumatic Growth in End-of-Life Care: How Filling Gaps in Knowledge Can Foster Clinicians' Growth

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ABSTRACT

Vicarious posttraumatic growth is a term used to describe the positive benefits from working with trauma patients who themselves have experienced a highly stressful or traumatic event and resultant growth. Research on vicarious posttraumatic growth remains in its initial stages and findings are inconsistent, leading to the need for additional research. A literature review was performed to ascertain the methodologies guiding research on vicarious posttraumatic growth and identify gaps in knowledge. This study found that 71% of research studies examined used survey instruments to measure vicarious posttraumatic growth and 87% of these studies utilized the Posttraumatic Growth Inventory ($\alpha = 0.90$). This instrument was not designed to measure secondary trauma. In order to support clinicians who are at high risk of adverse outcomes, the knowledge of vicarious posttraumatic growth must be broadened by conducting research with varying methodologies, among other populations, and by developing effective survey instruments to operationalize this concept.

KEYWORDS

Grief; loss; growth; secondary trauma; vicarious

Introduction

Secondary trauma symptoms such as intrusive thoughts, hypervigilance, and inability to regulate emotions are common among therapists, nurses, physician assistants and social workers working with trauma patients (McCann & Pearlman, 1990; Sinclair & Hamill, 2007). Those who work with terminally ill patients and their families may experience post-traumatic stress or secondary trauma due to the emotionally difficult work with end-of-life clients and their families (Escot, Artero, Gandubert, Boulenger & Ritchie, 2001; Taubman-Ben-Ari & Weintroub, 2008). However, researchers are beginning to examine the potential positive effects that clinicians may gain from working in trauma, or what is termed vicarious posttraumatic growth (VPTG). This analysis will focus on studies of VPTG to synthesize

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the findings, identify gaps in knowledge, and recommend future areas of research.

Impact of secondary traumatization on clinicians

Clinicians become integral members of the patient's care team and are often present at the end of life and witness traumatizing events such as patients coding, suffering in pain, and dying: "The sight of emaciated bodies, uncontrolled bleeding and diarrhea, sounds of struggling for breath, screams of pain, distortions and grimaces, and agitation—all of these can be deeply disturbing and distressing for patients and families and for even the most experienced staff" (Rezenbrink, 2004, p. 853). Experiences such as these are stressful, emotionally draining, and may lead to a high risk of burnout, compassion fatigue and job dissatisfaction (Escot et al., 2001; Newell & MacNeil, 2010) which can contribute to turnover (Aiken, Clarke, Sloane, Sochalski & Silber, 2002) Frequent turnover of clinicians not only reflects poor clinician outcomes, but also negatively impacts patient care, mentor relationships and organizational well-being.

Within a thirty-day period, hospice nurses are exposed to an average of 7 deaths and nearly 80% of hospice nurses are at moderate to high risk for compassion fatigue as measured through the professional quality of life (ProQOL) compassion satisfaction and fatigue subscales (Abendroth & Flannery, 2006). In addition, 43% of nurses have high burnout scores and are dissatisfied with their jobs (Aiken et al., 2002). Social workers in hospice and palliative care also demonstrate dissatisfaction or intent to leave their jobs: 47% of social workers have thought about leaving their job and 35% state that they were somewhat or very likely to leave their job (Middleton, 2018). Additionally, of those likely to leave, 27% report they are likely to leave hospice and 14% report they are likely to leave the social work profession entirely (Middleton, 2018).

Physicians working in end-of-life care are also susceptible to compassion fatigue and burnout. Physicians in end-of-life care often do not have adequate resources or agency support when dealing with patient and family suffering which can further lead to burnout (Kearney, Weininger, Vachon, Harrison & Mount, 2009). Indeed, among a sample of 1740 oncologists in the US, 61.7% report burnout (Allegra, Hall & Yothers, 2005). These examples of burnout among nurses, social workers, and physicians demonstrate the universality of this issue among end-of-life clinicians. When clinicians leave their jobs, there is not only a financial loss to an organization that must recruit, hire, and train new employees, but also a loss of mentorship between established and newer clinicians (Abendroth & Flannery, 2006).

While the negative effects of working with end-of-life patients can seem daunting, the positive aspects may prevent or outweigh these consequences. Posttraumatic growth (PTG) is a term coined in the 1990s by Tedeschi and Calhoun (1996) to describe the positive growth that can occur as a result of the struggle with a highly challenging, stressful, and traumatic event. PTG does not deny that trauma causes psychological pain. However, the concept of PTG suggests that the turmoil and struggle with a traumatizing event can lead to aspects of positive growth. Calhoun and Tedeschi (2006) defined five domains of PTG: personal strength, new possibilities, relating to others, appreciation of life, and spiritual change. Posttraumatic growth is related to fewer mental health problems such as depression and suicidality and better long-term health outcomes.

Stemming from the concept of PTG, vicarious posttraumatic growth (VPTG) is the positive growth that clinicians experience indirectly from working with patients experiencing their own PTG. VPTG is defined as the personal growth and meaning that can be gained through another's trauma (Abel, Walker, Samios, & Morozow, 2014). VPTG develops through the same process as PTG (Hyatt-Burkhart, 2014).

Studies of VPTG among clinicians demonstrate the possibility of VPTG among psychotherapists, mental health workers, nurses, and other clinicians (Arnold, Calhoun, Tedeschi, & Cann, 2005; Itzhaki et al., 2015; Taubman-Ben-Ari & Weintroub, 2008). However, in a meta-synthesis of twenty qualitative studies on vicarious trauma and VPTG, none of the studies specifically look at clinicians working in end-of-life care (Cohen & Collens, 2013). The clinicians work in the fields of childhood trauma, intimate partner violence, and rape crisis.

A meta-synthesis published two years later broadened inclusion criteria to include mixed-methods and quantitative studies (Manning-Jones, de Terte, & Stephens 2015). However, the authors do not specifically examine VPTG among clinicians. Literature reviewed included participants from the general public, telephone counselors, funeral directors, liaison officers, and clinical/administrative staff. While this meta-synthesis adds to the body of knowledge on VPTG, there remains a gap in knowledge on clinicians' VPTG, particularly in end-of-life settings. This gap in knowledge stunts our ability to support clinicians working in end-of-life care. This study will expand understanding of VPTG by focusing specifically on clinicians, including review articles, examining the country in which research was conducted, and analyzing the theoretical framework and methods utilized in studying VPTG.

In conclusion, the emotional and mental toll of end-of-life care can contribute to high rates of burnout and turnover, as well as financial burdens to medical institutions. Given the gaps in research on VPTG among

clinicians working in end-of-life care, high compassion fatigue and turnover are likely to continue for these clinicians. To support clinicians at high risk of adverse outcomes, research must be conducted among diverse populations, using multiple methodologies, and developing a survey instrument to effectively measure VPTG.

Shifting from pathologizing to strengths-based approaches

Critical to the foundation of PTG is the underlying concept of positive psychology. The terms used to describe this phenomenon vary across studies; positive psychology, personal growth, benefit-finding, functional-descriptive model, affective-cognitive processing model, and constructivist self-development theory (CSDT) are all used to describe the phenomenon of positive psychology. Positive psychology developed in response to mental health's focus on pathology and negative symptoms (Seligman, 2002). Mental health professionals utilize the diagnostic and statistical manual (DSM) of mental disorders to diagnose individuals based on their display of negative symptoms or behaviors; positive emotions are not often the focus of therapeutic interventions (Hyatt-Burkhart, 2014).

After the Second World War, psychology and mental health professionals discovered that they could make a living by treating individuals with defined "mental illnesses" (Seligman, 2002). They concentrated on healing and repairing damage from the perspective of a disease model. In addition, the Veterans Administration and the National Institute of Mental Health were founded and research into pathology became more pervasive (Seligman, 2002). Positive psychology therefore formed out of an attempt to shift the focus of mental health professionals to strengths, capacities and potentials of their clients. Seligman (2002) defines positive psychology as positive subjective experiences such as well-being, happiness, and satisfaction. For individuals, positive psychology "is about positive personal traits—the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future-mindedness, high talent and wisdom" (Seligman, 2002, p. 3).

Positive psychology is a critical element of PTG as it is the development and evolution of these positive personal traits and positive subjective experiences that PTG describes. When looking at how PTG develops, a number of theories stemming from positive psychology have been posited. For example, a model utilized to explain the process of developing PTG is the functional-descriptive model. In this model, trauma challenges an individual's schemas and it is the restructuring of one's schemas that allow him or her to derive meaning from the trauma (Abel et al., 2014). In the functional-descriptive model, importance is placed on the individual's

"automatic and effortful ruminative activity" as the vehicle to developing PTG (Abel et al., 2014, p. 9). These examples demonstrate the importance of positive psychology and its related models in explaining the framework of PTG. By reframing the effects of trauma work on clinicians to focus on the possible benefits, the possibility for growth is acknowledged and can therefore be fostered. Encouraging clinicians to examine their own growth and better understanding of how this growth develops may help prevent or reduce secondary traumatization, compassion fatigue, and burnout. In addition, the retention of competent end-of-life clinicians is critical to patient care and for reducing financial burdens to medical institutions.

Methods

In order to identify the most influential and up-to-date research on VPTG, a literature review was performed in CINAHL, the Cochrane Library, MEDLINE, PubMed, Psychology & Behavioral Sciences Collection, PsychINFO, Scopus, and Web of Science. This literature review does not meet PRISMA guidelines for a systematic review. Combinations of the following key terms were utilized: posttraumatic growth, vicarious posttraumatic growth, personal growth, positive benefits, psychological growth, positive transformation, and trauma, secondary trauma, indirect trauma, clinician, and healthcare provider.

Data analysis

Abstracts that focus on VPTG among healthcare providers and clinicians were further reviewed. For purposes of this analysis, articles focusing on allied concepts that did not use the term "posttraumatic growth" were excluded in order to focus on the growing conceptualization of this concept. For example, research on vicarious resilience (which is different from VPTG) as well as research examining only one or two aspects of VPTG such as personal growth or meaning in life were excluded. Dissertation and theses that were not published in peer-reviewed journals were also excluded.

Articles that used the term "posttraumatic growth" but focused on this concept among clinicians were included. Articles were also included for review if they were published in a peer-reviewed journal and were printed in English. Review and meta-synthesis articles were reviewed to further understand the growth of this scientific concept. Once articles were identified using this criterion, reference lists from these articles were also reviewed to identify any additional pertinent literature. While multiple scholarly databases were used to perform the search, it is possible that the

search missed some relevant articles. IRB approval was not needed for this study as no human participants were involved.

Results

This literature review identified 21 studies that met the above criteria. Only one of the 21 studies (4.8%) involves participants working in end-of-life care (Vishnevsky, Quinlan, Kilmer, Cann, & Danhauer, 2015). Nine of the 21 studies (42.8%) are conducted with participants in medical settings; the remaining studies are conducted with university students, community workers, psychotherapists, domestic violence therapists, registered therapists, substance abuse counselors, mental health workers, social workers, child protective service workers, and sexual violence therapists.

Three studies are reviews or meta-syntheses (Cohen, & Collens, 2013; Manning-Jones et al., 2015; Newell, Nelson-Gardell, & MacNeil, 2016). Four studies utilize a mixed-methods approach of interviews/focus groups and survey instruments (Beck, Eaton, & Gable, 2016; Beck, Rivera, & Gable, 2017; Cosden, Sanford, Koch, & Lepore, 2016; Hyatt-Burkhart, 2014). Three studies use only qualitative methods such as semi-structured interviews (Arnold et al., 2005; Splevins, Cohen, Joseph, Murray, & Bowley, 2010; Vishnevsky et al., 2015). The majority of studies (11 or 52.4%) utilize only survey instruments or questionnaires (Abel et al., 2014; Ben-Porat, 2015; Brockhouse, Msetfi, Cohen, & Joseph, 2011; Cosden et al., 2016; Itzhaki et al., 2015; Măirean, 2016; Manning-Jones, de Terte, & Stephens, 2016; Manning-Jones, de Terte, & Stephens, 2017; Rhee, Ko, & Han, 2013; Samios, Rodzik, & Abel, 2012; Taubman-Ben-Ari & Weintroub, 2008). Out of 15 studies utilizing survey instruments, 13 (86.7%) utilize the post traumatic growth inventory (PTGI) (see Table 1 for a complete list of studies examined).

Overall, 71% of studies (15 out of 21) utilize survey instruments to collect data and 87% of those (13 out of 15) utilize the PTGI developed by Tedeschi & Calhoun (1996). This 21-item instrument demonstrates an internal consistency of $\alpha = 0.90$ (Tedeschi & Calhoun, 1996). Ten out of 12 studies (83.3%) with quantitative portions conduct surveys through the mail or online (2 of these used both online surveys and hardcopies). Only seven of the 21 studies (33.3%) explicitly describe the theoretical framework guiding their methodology. Of these seven, three studies (42.9%) report utilizing phenomenology and one study uses grounded theory (See Figure 1 for studies divided by methodology.) Studies are conducted in the USA (33.3%), UK (19%), Israel (19%), New Zealand (14%), Australia (4.8%), Romania (4.8%) and South Korea (4.8%). (See Figure 2 for studies separated by country.).

Table 1. Chart of literature review.

Study	Country	Participants	*N*	Methodology	Survey tool(s)
Abel et al. (2014)	Australia	University students and community workers	126	Quantitative	IE R-R IES A-BS SWLS SOCS DASS21 PTGI VT item (4-point Likert scale) Marlowe-Crowne Social Desirability Scale
Arnold et al. (2005)	USA	Psychotherapists	21	Qualitative: Naturalistic interview	How have you been affected by your work with clients who have experienced traumatic events?
Beck et al. (2016)	USA	Labor and delivery nurses	467	Mixed-methods	PTGI CBI Please describe in as much detail as you can remember your experiences of any positive changes in your beliefs or life as a result of your caring for women during traumatic births.
Beck et al. (2017)	USA	Certified nurse midwives (CNMs)	425 315	Mixed-methods Quantitative portion Qualitative portion	PTGI CBI Please describe in as much detail as you can remember your experiences of any positive changes in your beliefs or life as a result of your attending traumatic birth.
Ben-Porat (2015)	Israel	Domestic violence therapists and therapists at social service departments	214	Quantitative	PTGI STSS Self-esteem questionnaire Sense of role competence Multidimensional scale of perceived social support Colleague Support Questionnaire
Brockhouse et al. (2011)	UK	Registered therapists	118	Quantitative	Jefferson Physician empathy scale Sense of coherence scale Perceived Organisational Support scale PTGI
Cohen & Collens (2013)	UK	Articles on vicarious trauma and VPTG	–	Meta-synthesis	–

(*continued*)

Table 1. Continued.

Study	Country	Participants	*N*	Methodology	Survey tool(s)
Cosden et al. (2016)	USA	Substance abuse counselors	51	Quantitative	Trauma History Screen PTGI Impact of Event Scale-revised
Hyatt-Burkhart (2014)	USA	Mental health workers	12	Qualitative	ProQOL "How would you describe your job as a mental health worker? How have you been affected by your work with children who have experienced traumatic events? What sustains you in our work in this field?"
Itzhaki et al. (2015)	Israel	Mental health nurses	118	Quantitative	Exposure to violence Likert scale Perceived Job Stress Scale Life Satisfaction scale CD-RISC Post-traumatic Growth Short Form
Măirean (2016)	Romania	Nurses	135	Quantitative	STSS PTGI MOS
Manning-Jones et al. (2015)	New Zealand	Articles on VPTG	–	Systematic literature review	–
Manning-Jones et al. (2016)	New Zealand	Social workers, nurses, counsellors, psychologists and medical doctors	365	Quantitative	STSS PTGI SSS The Self-Care Utilisation Questionnaire Self-Enhancing Humor subscale of the HSQ
Manning-Jones et al. (2017)	New Zealand	Social workers, nurses, counsellors, psychologists and medical doctors	365	Quantitative	STSS PTGI Traumatic Stress Schedule
Newell et al. (2016)	USA	Previous literature	–	Literature review	–
Rhee et al. (2013)	South Korea	Child protective service workers	255	Quantitative	PTGI Psychological pain scale IES (Korean version) Crisis Support Scale (Korean version) Coping Strategy Indicator
Samios et al. (2012)	UK	Sexual violence therapists	61	Quantitative	STSS PTGI ProQOL

(*continued*)

Table 1. Continued.

Study	Country	Participants	*N*	Methodology	Survey tool(s)
					Depression and Anxiety subscales of Depression, Anxiety and Stress Scales Meaningfulness subscale of SOC Satisfaction with Life Scale Bradburn Affect Balance Scale
Splevins et al. (2010)	UK	Interpreters	8	Qualitative	Semi-structured questions such as "I'm wondering what it's like for you to listen to your client's stories"
Taubman-Ben-Ari & Weintroub (2008)	Israel	Nurses and physicians	124	Quantitative	PIL PTGI STSS Life Orientation Test Professional Self-Esteem Scale
Vishnevsky et al. (2015)	USA	Oncology nurses	30	Qualitative	Interviews
Zerach & Shalev (2015)	Israel	Psychiatric nurses and community nurses	196	Quantitative	PTSD Inventory PTGI ProQOL MHLC LEC Exposure to Stress Questionnaire

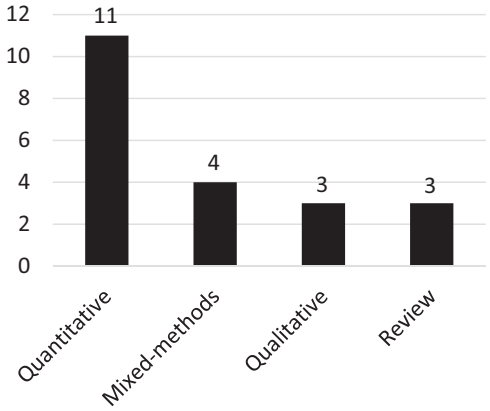

Figure 1. Number of studies divided by methodology.

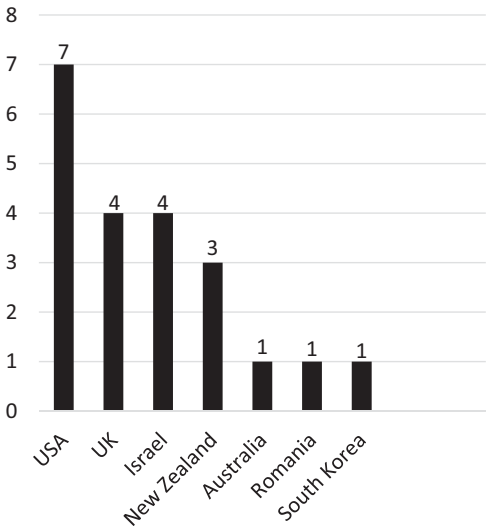

Figure 2. Number of studies divided by country.

Discussion

Measurement issues

This review identifies research not identified by previous review articles. Analysis of the literature demonstrates the reliance on PTGI to measure and understand the different aspects of VPTG among clinicians. There are a number of reasons to explain why using the PTGI to assess VPTG may not be accurate. First of all, as stated previously, the PTGI was only validated with direct trauma survivors, not with those who may have experienced secondary traumatization. In fact, the PTGI was validated with a group of undergraduate students (Tedeschi & Calhoun, 1996). As it was not validated with clinicians or in a medical setting, this instrument cannot be assumed to accurately assess VPTG among this population. To address

this issue, some studies modify the PTGI by changing the wording of the response options and by asking participants to focus on their work with trauma patients before completing the instrument (Manning-Jones et al., 2017). For example, instead of reading "I have/have not experienced this change as a result of my crisis", participants read statements such as "I have/have not experienced this change as a result of my work" (Manning-Jones et al., 2017). While this alteration is a step in the right direction, it is insufficient to accurately capture VPTG.

Although PTG and VPTG are very similar, there are aspects of VPTG that are distinct from PTG. A study of psychotherapists reports that through working in the field of trauma, clinicians realize their own good fortune (Arnold et al., 2005). In addition, psychotherapists develop a deeper appreciation of the resilience and strength of the human spirit in general and gain a deeper understanding of spirituality as an effective coping skill for their clients (Arnold et al., 2005). Furthermore, in working with trauma victims, clinicians feel valuable to someone else which influences their desire to give back to the community and make their lives more meaningful (Splevins et al., 2010). It also contributes to their personal sense of vulnerability and participants describe a broader appreciation of human resilience (Arnold et al., 2005)—while this is similar to the increase in personal strength described by direct trauma victims, it is a separate concept. In conclusion, since VPTG is unique from PTG, the PTGI cannot adequately measure VPTG (Manning-Jones et al., 2015).

The heavy reliance on the PTGI as a tool to understand VPTG also hinders further knowledge development as it places emphasis on the measurement of VPTG and not on understanding the nuances and meaning of clinicians' experiences. Research is needed on the mechanisms that generate VPTG and what differentiates a clinician who experiences VPTG and one who becomes burned out. By characterizing VPTG through its quantification, the richness of individual clinician experiences is lost. Future research on VPTG should include clinicians from settings such as adult intensive care units and hospice agencies. While one study (Vishnevsky et al., 2015) did examine VPTG among oncology clinicians, it is possible that the adult ICU or hospice setting is unique. For example, in home hospice settings, clinicians often visit a patient's home on a frequent basis and often have deeper relationships than time on an intensive care unit may allow. This greater intimacy between clinicians and patients might foster VPTG.

Another measurement issue found among the studies is with two of the mixed-methods research studies; participants were asked to describe their experiences of positive changes post-trauma (Beck et al., 2016, 2017). This type of leading question might produce positively skewed responses whereas a question phrased neutrally might evoke experiences of both

negative and positive changes. Therefore, while these mixed methods studies attempt to both quantify and understand the rich experiences of clinicians in the healthcare field, their qualitative portion may produce misleading results.

Underlying theoretical perspectives

The PTGI is a 21-item instrument in which participants are asked to indicate the strength of their agreement with each statement to assess possible areas of growth and change. Participants rank their agreement on a scale of 0–5, where 0 = "I did not experience this change as a result of my crisis" and 5 = "I experienced this change to a very great degree as a result of my crisis" (Tedeschi & Calhoun, 1996). The PTGI is designed to measure the degree of growth among five dimensions of PTG identified by Tedeschi and Calhoun (1996).

The statements that participants respond to aim to understand their lived experience by asking about their priorities in life, their relationships with others, new opportunities, personal strength and possible changes in their spirituality. The lived experience of these changes as a result of trauma indicates a phenomenological perspective as it looks at creating new understandings from experience (Connelly, 2010). In qualitative phenomenology, the term "lived experience" refers to everyday experiences of a person and the knowledge gleaned from these experiences (Mapp, 2008).

The use of phenomenology as the main theoretical framework underlying the PTGI and some of the VPTG studies identified is understandable given the concept of VPTG. That is, in trying to better understand VPTG, it makes sense to examine clinicians' day-to-day experience with trauma patients. In addition, the use of phenomenology is helpful in concept development and analysis (Morse, 2017). Thus, while this concept was still in its early stages of development, phenomenology worked to clarify the attributes of VPTG. However, now that this scientific concept has matured, phenomenology may not add new information to the field.

A major assumption stemming from the use of a phenomenological perspective is that meaning is made by clinicians' experiences with their patients. For example, Arnold et al. (2005) examined the experience of psychotherapists as a result of their work with trauma patients. Although some studies do take external factors into account (such as an individual's past traumas, involvement in therapy, etc.), the use of phenomenology suggests that meaning is not predetermined. It is not created by an individual's past experiences or religious beliefs. Instead, meaning is fluid and depends upon both the clinician and the patient. This assumption places a lot of emphasis on the interaction between individuals and less emphasis on one's biology, upbringing, and other possible influences.

The use of phenomenology as a theoretical perspective also assumes that understanding the meaning individuals make from the interaction with end-of-life patients is more important than other aspects of VPTG. For example, focusing on the day-to-day experiences of oncology nurses, Vishnevsky et al. (2015) allocated less importance to accurately measuring VPTG, observing clinicians, and performing experiments to test the mechanisms by which VPTG develops. In addition, the focus on the lived, everyday experiences of clinicians assumes that truth is discovered by examining the status quo. By examining the status quo, none of the studies analyzed attempted to challenge the status quo or provide a critical perspective. Studies were not conducted with clinicians who are on the margins of society, are underserved or oppressed. These aspects have no place in phenomenology, leading to gaps in knowledge in the field of VPTG. Utilizing alternate frameworks from which to study VPTG may add to the depth of understanding in this field.

Conclusion

Summary of findings

Research on VPTG is primarily limited to descriptive findings and surveys conducted online or through the mail. There are no intervention studies in this sample of literature. The majority of the current literature on VPTG uses survey instruments to evaluate clinicians' experience with trauma patients. Most studies utilize either a mixed-methods approach or a purely quantitative approach (71%) and of these studies, 87% utilized the PTGI. Fifty-three percent of the studies conducted used only survey instruments to gather their data. Thirty-three percent of research was conducted in the US. While the findings of the international studies may be transferrable to the US, it is also possible that the different healthcare systems contribute to differences in how clinicians experience VPTG.

Only one study was conducted in end-of-life care and this research was performed at an oncology hospital (Vishnevsky et al., 2015). Nine of the 21 studies focused on clinicians specifically in medical settings. Roughly 83% of studies with quantitative portions conducted surveys through the mail or online. Forty-two percent of studies that stated their theoretical frameworks utilized phenomenology.

Strengths and limitations

One of the strengths of this analysis is that in performing a comprehensive literature review, the use of the specific term "posttraumatic growth" narrowed the studies examined. By prioritizing research that used this term,

the conceptualization of VPTG and its development was analyzed. In addition, the inclusion of reviews and meta-syntheses added to the understanding of the current state of research on VPTG. The use of multiple medical and biopsychosocial research databases also strengthened this review of current literature. Finally, by examining the dominant theoretical frameworks used to study VPTG, this analysis identifies gaps in knowledge and areas for future research.

Due to the independent nature of this paper, one of its major limitations is that relevant articles may have been missed. The review performed did not follow any particular guidelines such as the PRISMA guidelines for systematic review and therefore studies contributing to the understanding of VPTG may have been overlooked. In addition, the narrower use of the term VPTG may have restricted the available information. Finally, the major limitation of this paper is its theoretical nature. While next steps for research on VPTG were outlined, new research was not conducted and therefore gaps in knowledge remain.

Future directions for research

Given the relative infancy of research on VPTG among clinicians working in end-of-life settings, the time is ripe for utilizing new approaches to broaden the body of knowledge. Although the PTGI's focus on the "lived experience" and the construction of meaning has helped to better understand potential benefits for clinicians, we still lack a standardized way to measure VPTG as well as evidence-based interventions to promote VPTG. Further studies should consider utilizing models other than phenomenology such as critical theory that would examine the experience of marginalized populations.

In addition, studies on clinicians working in end-of-life care should expand to include settings such as hospice facilities, home hospice, adult intensive care units and emergency departments. Research could also focus on producing tangible data (a validated instrument or biomarkers of VPTG) that could further legitimize the concept of VPTG in a world where "hard science" is preferred. Future research should also consider conducting surveys in person rather than through mail or internet. The interaction between researcher and research participant could yield data that might otherwise be missed.

Without this additional research, VPTG will continue to be inaccurately measured and therefore not well understood. Clinicians working with trauma patients will continue to be at high risk for developing vicarious traumatization, compassion fatigue, and burnout and our healthcare systems will be financially burdened. By adding to the body of knowledge on VPTG, an upstream approach to promoting VPTG among clinicians can be taken and these issues may be reduced or even prevented.

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