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Factors Influencing Secondary Traumatic Stress in Pediatric Nurses: An Integrative Review

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ABSTRACT

Secondary traumatic stress is a significant occupational concern in pediatric nursing because frequent exposure to traumatic events can compromise nurses' emotional health, increase burnout, and reduce the quality of care. The aim of this integrative review is to synthesize the current evidence on the prevalence and contributing factors of secondary traumatic stress among pediatric nurses. A comprehensive search was conducted in CINAHL, EMBASE, PsycINFO, PubMed, and Web of Science for peer-reviewed articles published in English. A total of 24 studies met the inclusion criteria and were analyzed using Whittemore and Knafl's integrative review methodology. Reported prevalence rates of secondary traumatic stress ranged from 13% to 87%, which were higher than those of other healthcare professionals. Key contributing factors included patient deaths, parental grief, heavy workload, limited organizational support, and insufficient coping strategies. These factors encompassed the individual, work-related, and organizational domains. The review highlights the need for comprehensive strategies to support pediatric nurses' mental health and to develop interventions that address both personal and workplace contributors. Further high-quality research is warranted to deepen the understanding of this phenomenon and inform evidence-based practices that protect both nurse well-being and the quality of care provided to children and their families.

1 | Introduction

Secondary traumatic stress (STS) is defined as “stress resulting from helping or wanting to help a traumatized or suffering person” (Figley 1995, p.7). Among health care providers, pediatric nurses frequently experience STS as they witness the pain and, at times, the death of young and vulnerable patients and their families (Lima et al. 2018; Delgado et al. 2017). This unique role and position make pediatric nurses more susceptible to STS (Minnie et al. 2015). Repeated exposure to distressing situations while caring for children enduring serious illnesses or trauma can lead to significant emotional strain and distress for nurses (Coetzee and Kloppe 2010; Kleis and Kellogg 2020). Nurses experiencing STS often suffer from emotional distress, recurrent negative thoughts, and sleep disturbances (Kellogg 2021). Due to

the high demands of care provision, these nurses face an increased risk of physical health issues. Furthermore, the psychological burden of caregiving exposes them to various mental health challenges and psychological disorders (Levi et al. 2020). Repeated exposure to traumatic events can lead to heightened anxiety and fear that similar events may happen to themselves or others. Such negative emotions can disrupt interpersonal relationships by impairing trust and intimacy with patients, colleagues, and families (Finley and Sheppard 2017). Furthermore, these experiences contribute to feelings of work-related burden and nurses' burnout. Forsyth et al. (2022) reported that nurses who were continuously exposed to secondary traumatic stress experienced decreased work performance and job satisfaction and increased intention to leave the job.

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Research has explored the concept, characteristics, and symptoms of STS, which arises from indirect trauma experienced by caregivers who work closely with trauma survivors (Beck 2011; Isobel and Thomas 2022). Originally introduced by Figley (1995), STS is defined as the behaviors and emotions elicited by knowledge of a traumatic event affecting someone close, reflecting the stress associated with helping or desiring to help a traumatized individual. Although STS is often referred to as compassion fatigue, this latter term is operationalized as a subcomponent of burnout or STS, making its conceptual boundaries ambiguous (Stamm 2010). A concept analysis conducted by Kellogg (2021) demonstrated that STS is theoretically and empirically distinct from burnout and compassion fatigue, as its unique antecedent is engaging in caring for trauma-exposed individuals with specific consequent outcomes. Clinically, STS presents with symptoms similar to those of post-traumatic stress disorder (PTSD)—including intrusive thoughts related to patient situations, avoidance of work-related circumstances, and anxiety, fatigue, and sleep disturbances—but is differentiated by its origin in indirect exposure through empathic engagement with the suffering of others (Rauvola et al. 2019).

Studies have investigated STS of healthcare providers across diverse clinical settings, including labor and delivery, emergency care, intensive care, psychiatric, and oncology (Denis-Larocque et al. 2017; Nicholls et al. 2021; Cai et al. 2024; Ratrout and Hamdan-Mansour 2020; Xie et al. 2020). Research indicates that STS can develop in nurses through their direct caregiving relationships, with its occurrence linked to nurses' empathic engagement and the role of nurses as therapeutic agents (Sinclair and Hamill 2007). Although the total number of registered nurses working in pediatrics is not known, approximately 53,000 nurses in the United States are certified pediatric nurses, and STS remains a significant occupational risk that may compromise nurses' well-being (Pediatric Nursing Certification Board December). Despite this concern, most studies have focused on nurses caring for adult patients, with relatively few studies examining pediatric nurses. Evidence from neonatal and pediatric units is mixed: for example, Moore and Schellinger (2018) reported low levels of STS among Neonatal Intensive Care Unit (NICU) nurses, whereas Beck et al. (2017) found that approximately 50% of NICU nurses experienced moderate to severe STS. Levi et al. (2020) highlighted that nurses in the ICU are frequently exposed to traumatic events such as performing cardiopulmonary resuscitation, witnessing patient deaths, and managing excessive bleeding. These traumatic events may lead to anxiety, depression, burnout, and decreased job satisfaction. However, findings from studies specifically targeting pediatric nurses have been inconsistent.

Regarding factors influencing STS, Ratrout and Hamdan-Mansour (2017) emphasized the importance of distinguishing between individual and organizational determinants of STS among emergency department nurses. Their findings informed the development of targeted intervention strategies for this nursing population. However, the literature on STS among pediatric nurses remains limited, resulting in an insufficient understanding of the specific traumatic experiences encountered in pediatric care and the factors that contribute to or exacerbate STS in this context (Forsyth et al. 2022; Kellogg

et al. 2018). Duffy et al. (2015) highlighted that STS adversely affects nurses' mental health and job performance and underscored the need for targeted prevention and management strategies. An integrative literature review on STS in pediatric nurses is essential to address this issue comprehensively. The aims of this integrative review are to: (1) identify key characteristics of existing literature on STS in pediatric nurses, (2) examine the extent and types of traumatic events experienced by pediatric nurses, and (3) identify the factors influencing STS. This review addresses a critical knowledge gap on secondary traumatic stress in pediatric nursing, proposes evidence-based strategies to mitigate stress, and provides evidence for future research and policy development.

2 | Methods

2.1 | Search Strategy

Five databases—CINAHL, EMBASE, PsycInfo, PubMed, and Web of Science—were used for the literature search. The initial search was conducted in September 2023, with no limits placed on publication date, language, or study design. An updated search was conducted in November 2025 using updated and refined search terms to ensure the inclusion of the most recent and relevant literature. Medical Subject Headings (MeSH) terms and keywords were included to ensure comprehensive retrieval of relevant literature. The search strategy was structured as follows: (nurse* AND (pediatric OR neonatal OR child* OR PICU OR NICU)) AND (“secondary traumatic stress” OR “vicarious trauma” OR “indirect trauma” OR “compassion fatigue”). Compassion fatigue was included as a search term to identify studies in which the concept was used synonymously with STS resulting from exposure to patients' traumatic experiences. However, articles referring to compassion fatigue as a broader emotional exhaustion construct without a clear connection to trauma exposure were excluded. The inclusion criteria were peer-reviewed articles published in English, qualitative or quantitative research studies, and investigations of STS in samples of pediatric nurses. Exclusion criteria included gray literature (unpublished reports, theses, conference proceedings, and other non-peer-reviewed sources), reviews, clinical cases, and articles not involving pediatric nurses. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework was applied to screen the search results and identify the most suitable articles for this review (Figure 1). The search strategy was designed and performed with the assistance of a librarian at the first author's institution. Endnote software (version 20) was used to organize the literature and identify duplicates.

2.2 | Study Selection and Data Extraction

The initial search identified 1526 articles from five databases (Appendix A); 643 duplicates were eliminated, leaving 883 articles. After examining the title and abstract of 883 articles, 92 articles remained for full-text review. Twenty-four articles that met the inclusion criteria were finally selected after a thorough full-text review. Two authors independently reviewed the selected articles and resolved disagreements during the literature selection and data extraction processes.

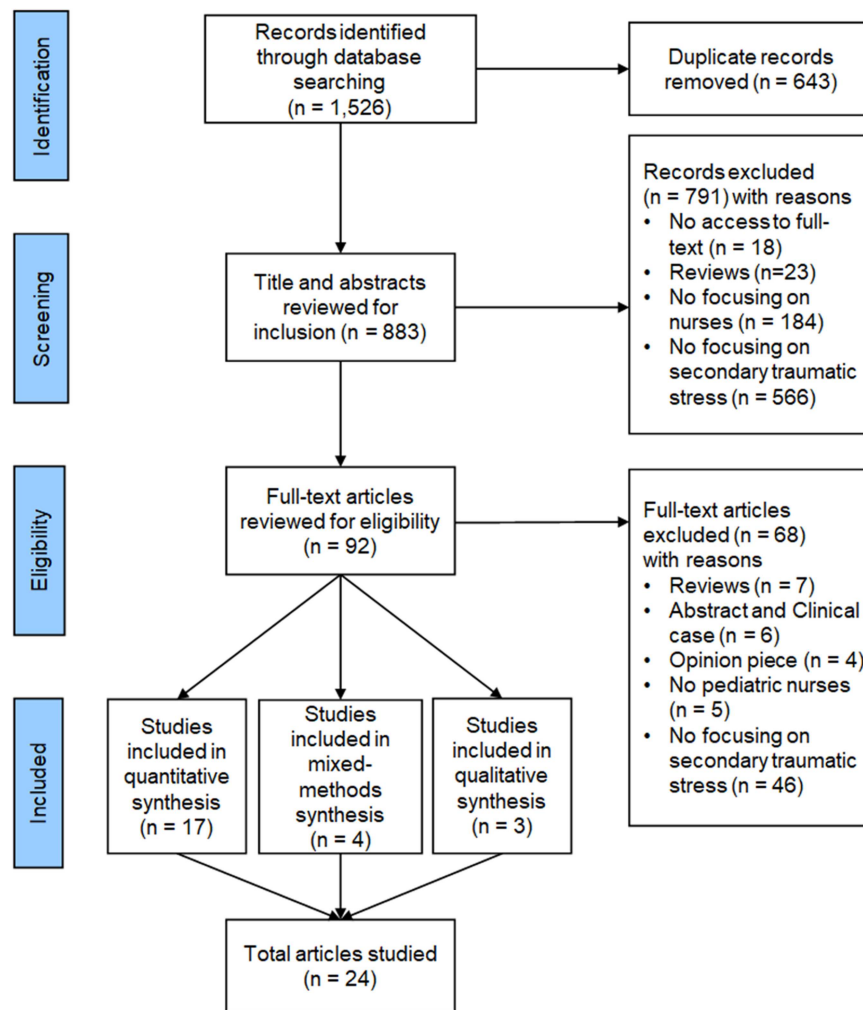


FIGURE 1 | The PRISMA flow diagram of the selection of studies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1002/nur.20084)]

2.3 | Risk of Bias Analysis

Risk of bias analysis was performed using the Johns Hopkins Evidence Appraisal Model (Dang et al. 2021). This tool assesses the risk of bias by analyzing the study design, sample size, settings, and instrumentation; based on the above criteria, evidence and quality levels were assigned for each study. Evidence levels were evaluated primarily by study design, while methodological quality was evaluated using appraisal criteria specific to each study design. Evidence levels range from I to III, with I representing the highest level. The quality was rated as A (high), B (good), or C (low). Of the 24 included studies, 23 were rated as Level III evidence based on their research designs (e.g., cross-sectional surveys), and one quasi-experimental study was rated as Level II evidence. Overall, most studies were rated as either high (A) or good (B) quality; however, two studies received low-quality (C) ratings because of insufficient reporting of data collection and analysis procedures in the qualitative phase.

2.4 | Data Analysis

In this study, data analysis consisted of five concurrent activities: data reduction, data display, data comparison,

conclusion drawing, and verification (Whittemore and Knafl 2005). A literature review matrix was first constructed to extract key data from each study (Mathes et al. 2017), with column headings including study design, subjects, instrumentation, and key findings (Table 1). Subject-related data included the country where the research was conducted and the type of unit or department (e.g., emergency department, pediatric intensive care unit, neonatal intensive care unit). Instrumentation included the type of scale used to measure STS. Key findings of the studies were prevalence by setting, traumatic events based on nurses' practice settings, and related factors at the individual and organizational levels. Then, the extracted data were reorganized and categorized by the objectives of this review to support constant comparison and identification of patterns, themes, and relationships across studies. In addition, quantitative and qualitative studies were integrated to categorize the factors contributing to STS into individual, work-related, and organizational factors (Table 2). To minimize interpretation bias and error and ensure the validity of the conclusions, the research team discussed the contents of the tables several times, and two authors independently verified the original texts for accuracy and confirmability (Whittemore and Knafl 2005).

TABLE 1 | Characteristics of selected studies (N = 24).

Author (year)	Design	Sample	Key findings			Evidence level/quality
			Measurements	Level of STS	Traumatic events	Related factors
Ergil and Ay Kaatsiz (2025)	Cross-sectional quantitative study	Pediatric nurse (n = 138) in Turkey	Secondary Traumatic Stress ScaleSchutte Self-Report Emotional Intelligence Test	Moderate level of STS		STS increased with age and pediatric work experience, but decreased with higher emotional intelligence. Social support and voluntary career choice were also associated with lower STS
Tokatlıoğlu & Güner (2025)	Cross-sectional quantitative study	Pediatric nurses (n = 186) in Turkey	Secondary Traumatic Stress ScaleSelfCompassion Scale	Moderate level of STS		High levels of self-compassion, particularly self-kindness and mindfulness, are negatively correlated with STS, whereas self-critical attitudes show a positive correlation.
Yehene et al. (2024)	Cross-sectional quantitative study	Pediatric nurses (n = 186) in Israel	The Professional Quality of Life Scale Perceived organizational support Emotional labor strategies	77.8% of the pediatric nurses had moderate to severe STS	—	Greater perceived organizational support correlated with decreased secondary traumatic stress
Alharbi (2024)	Cross-sectional quantitative study	Pediatric nurses (n = 250) in Saudi Arabia	The Professional Quality of Life Scale	2% of the pediatric nurses had high STS	—	Previous experience, shift length and overtime work correlated with STS.
Roney (2024)	Cross-sectional quantitative study	Pediatric nurses (n = 150) in U.S.	The Professional Quality of Life Scale	Moderate level of STS	—	Age, Years in nursing, shift length, and COVID-19 patient load correlated with STS.
Key findings						
Author (Year)	Study Design	Subject	Measurement	STS Level	Traumatic events	Related factors
Shivani et al. (2023)	Cross-sectional quantitative study	Pediatric nurses (n = 150) in India	The Professional Quality of Life Scale Perceived Stress Scale	8.5% of the pediatric nurses had high STS	—	—
Hayakawa et al. (2023)	Cross-sectional quantitative study	Pediatric nurses (n = 696) in U.S.	The Professional Quality of Life Scale	All nurses had low or moderate STS (83.3% low, 16.7% moderate).	—	Age, Years in nursing associated with STS.
Nissanholtz Gannot et al. (2022)	Cross-sectional quantitative study	NICU physicians and nurses in Israel (n = 196) Physician (n = 58) Nurse (n = 137)	Secondary traumatic stress scale Perceived Ability to Cope with Trauma ScaleThe modified Shirom-Melamed Vigor Measure (SMVM)	No significant differences were found between nurses' and physicians' STS	—	Vigor was negatively correlated with STS, and this negative relationship became significant when coping flexibility was at higher values

(Continues)

TABLE 1 | (Continued)

Author (Year)	Study Design	Subject	Measurement	Key findings			Evidence level/quality
				STS Level	Traumatic events	Related factors	
Hamama-Raz et al. (2021)	Cross-sectional quantitative study	Pediatric nurses in Israel (<i>n</i> = 138)	The Professional Quality of Life Scale Maslach Burnout Inventory The Posttraumatic Growth Inventory (PTGI) The Personal Questionnaire Meaning	—	—	PTG indirectly linked negatively to STS STS linked positively to burnout Meaning in work had a moderating role between PTG and STS	Level: III Quality: B
Abu-Sharkia et al. (2020)	Cross-sectional quantitative study	Healthcare providers in Israel (<i>n</i> = 149) High exposure group (<i>n</i> = 52) Moderate-to-low group (<i>n</i> = 47) Maternity and neonatal nurses (<i>n</i> = 50)	Secondary Traumatic Stress Scale Level of Differentiation of Self Scale Multidimensional Scale of Perceived Social Support Posttraumatic Growth Inventory	—	—	Social support correlated negatively and significantly with STS	Level: III Quality: B

Author (year)	Study Design	Subject	Measurement	Key findings			Evidence level/quality
				STS Level	Traumatic events	Related factors	
Hamama et al. (2019)	Cross-sectional quantitative study	Pediatric physicians and nurses in Israel (<i>n</i> = 234) Physician (<i>n</i> = 76) Nurse (<i>n</i> = 158)	Secondary Traumatic Stress Scale Maslach burnout inventory Multidimensional Scale of Perceived Social Support	Nurses and physicians had similar rates of STS	—	Age and PSS had significant negative effects STS mediated the association between PSS and burnout for both groups	Level: III Quality: B
Sano et al. (2018)	Cross-sectional quantitative study	NICU Nurses in U.S. (<i>n</i> = 174)	Secondary Traumatic Stress Scale Nurse-physician relations subscale of the Nursing Working Index The Self-Compassion Scale	—	Caring complex infant (low birth weight infant, premature, et al.)	Self-compassion mediated the relationship between nurse-infant/family relationship strength and negative outcomes only at high nurse-physician collegiality.	Level: III Quality: A
Moore and Schellinger (2018)	Cross-sectional quantitative study	NICU nurses in U.S. (<i>n</i> = 62)	The Professional Quality of Life Scale The Center for Epidemiological Studies Depression Scale The Brief COPE	—	—	Support-seeking coping skills significantly moderated the relationship between STS and burnout	Level: III Quality: B

(Continues)

TABLE 1 | (Continued)

Author (year)	Study Design	Subject	Measurement	Key findings			Evidence level/quality
				STS Level	Traumatic events	Related factors	
Kellogg et al. (2018)	Cross-sectional quantitative study	Pediatric nurses in U.S. and Canada ($n = 338$)	Secondary Traumatic Stress ScaleBrief COPE ScaleThe Marlowe-Crowne Social Desirability Scale	50.3% of pediatric nurses had moderate to severe STS	—	Nurses with higher emotional support and instrumental support demonstrated higher STSDenial and behavioral disengagement were associated with an increase in STS	Level: IIIQuality: A

Author, Year	Design	Sample	Measurements	Key findings			Evidence level/quality
				STS Level	Traumatic events/Themes	Related factors	
Barr (2017)	Cross-sectional quantitative study	Pediatric nurses in Australia ($n = 140$)	The Professional Quality of Life ScaleWork Stress ScaleSocial Provision Scale	13% of pediatric nurses had high STS	—	Social support did not predict STS; the interaction between work stress and social support was significantly correlated with STS.	Level: IIIQuality: B
Latimer et al. (2017)	Cross-sectional quantitative study	PICU nurses in U.S. ($n = 51$) Allied health professional ($n = 24$) Nurse ($n = 27$)	Compassion Fatigue ScaleInterpersonal Reactivity IndexSituational Pain QuestionnaireFunctional magnetic resonance imaging	Pediatric nurses rate typical painful events and series of video stimuli as more painful than a matched group of allied health professionals	—	PICU nurses self-reported significantly higher levels of dimensions of empathy, also higher secondary trauma and burnout	Level: IIIQuality: B
Favrod et al. (2018)	Cross-sectional study mixed with qualitative study	Midwives and NICU nurses in Switzerland ($n = 213$) Midwives ($n = 122$) NICU nurses ($n = 91$)	Secondary Traumatic Stress ScaleThe Hospital Anxiety and Depression ScaleThe Maslach Burnout InventoryOpen-ended question	50.0% of NICU nurses had moderate to severe STSNICU nurses had a higher secondary traumatic stress and less anxiety than hospital midwives	Five themes: Working environment; Nursing/midwifery care; Dealing with death and dying; Case management; and Others	—	Level: IIIQuality: B/B

(Continues)

TABLE 1 | (Continued)

Author, Year	Design	Sample	Key findings				Evidence level/quality
			Measurements	STS Level	Traumatic events/Themes	Related factors	
Günüşen et al. (2018)	Cross-sectional study mixed with qualitative study	Pediatric nurses in Turkey (<i>n</i> = 106)	The Professional Quality of Life ScaleThe Maslach Burnout InventorySemi-structured individual interviews	40.6% of participants had high levels of secondary traumatic stress	Caring chronically ill children	Over 40 years of age had higher STSTwo themes: emotional consequences and coping strategies	Level: IIIQuality: B/B
Key findings							
Author, Year	Design	Sample	Measurements	STS Level	Traumatic events/Themes	Related factors	Evidence level/quality
Beck et al. (2017)	Cross-sectional study mixed with qualitative study	NICU nurses in U.S. (<i>n</i> = 175)	Secondary Traumatic Stress ScaleOpen-ended questions for qualitative research	49% of the nurses had moderate to severe STS	Five themes: What Intensified NICU Nurses' Traumatic Experiences, Parents Insisting on Aggressive Treatment, Baby Torture, Questioning Their Skills, and The Grief of the Family	—	Level: IIIQuality: B/C
Lima et al. (2017)	Cross-sectional study mixed with qualitative study	Pediatric nurses in Portugal (<i>n</i> = 62) ED nurses (<i>n</i> = 26) PICU nurses (<i>n</i> = 36)	The impact of event scale-revised scaleSemi-structured individual interviews	19.4% of pediatric nurses had high levels of STS	Two themes: emotional impact and circumstances affecting the emotional impact	The patient's age, the cause of death, and the family's reaction to the loss influenced the nurse's STS	Level: IIIQuality: B/B
Berger and Gelkopf(2011)	Quasi-experimental study	Well baby clinic nurses (<i>n</i> = 80) in IsraelIntervention (<i>n</i> = 42) Control (<i>n</i> = 38)	The Professional Quality of Life ScaleMajor lifetime traumatic eventsDisaster-Helper Self-Efficacy ScaleRosenberg self-esteem scale	20% of well-baby clinic nurses had severe secondary traumatic stress	Terror/war exposure, death of a close relative/friend, severe road accident, serious illness, physical or sexual abuse	12 weeks of group sessions, the program improved nurses' self-efficacy and reduced STS.	Level: IIQuality: B
Kleis and Kellogg (2020), U.S.	Qualitative study	PICU nurses in U.S. (<i>n</i> = 72)	Open-ended question	—	Six themes: pressure to perform despite emotion, feeling unsupported,	—	Level: IIIQuality: C

(Continues)

TABLE 1 | (Continued)

Author, Year	Design	Sample	Measurements	Key findings			Evidence level/quality
				STS Level	Traumatic events/Themes	Related factors	
					inability to separate traumatic experiences from personal life, consumption by traumatic experiences, using positivity to cope, and the need for further research		
					Key findings Traumatic events/Themes	Related factors	Evidence level/quality
McGibbon et al. (2010), Canada	Qualitative study (ethnography)	PICU nurses in Canada ($n = 23$)	Participant observationIn-depth and focus group interviews	—	Six themes of nurses' stress: emotional distress; constancy of presence; burden of responsibility; negotiating hierarchical power; engaging in bodily caring; and being mothers, daughters, aunts, and sisters	—	Level: III Quality: A
Maytum et al. (2004), U.S.	Qualitative study	Pediatric nurses in U.S. ($n = 20$)	A semi-structured individual interviews	—	Four triggers of compassion fatigue and burnout: Work-related and personal triggers	Two coping strategies: short and long-term coping strategies in personal and work-related	Level: III Quality: A

Abbreviations: E, emergency department; NICU, neonatal intensive care unit; PICU, pediatric intensive care unit; PSS, perceived social support; PTG, post-traumatic growth; STS, Secondary Traumatic Stress; U.S., United States of America.

TABLE 2 | Factors contributing to secondary traumatic stress in pediatric nurses.

Category	Subcategory	Author (Year)
Individual factors	Age	Favrod et al. (2018), Günişen et al. (2018), Hamama et al. (2019), Kellogg et al. (2018), Roney et al. (2024), Hayakawa et al. (2023)
	Marital status	Favrod et al. (2018), Hamama-Raz et al. (2021), Tokathioğlu & Güner (2025)
	Religiosity	Hamama-Raz et al. (2021)
	Education level	Günişen et al. (2018)
	Emotional intelligence	Ergül and Ay Kaatsız (2025)
	Self-compassion	Sano et al. (2018), Tokathioğlu & Güner (2025)
	Self-differentiation	Abu-Sharkia et al. (2020)
	Coping strategy	Günişen et al. (2018), Kellogg et al. (2018), Kleis and Kellogg (2020), Maytum et al. (2004), Moore and Schellinger (2018), Berger and Gelkopf (2011)
	Coping flexibility	Nissanholtz Gannot et al. (2022)
Work-related factors	Years of profession	Favrod et al. (2018), Kellogg et al. (2018), Latimer et al. (2017), Ergül and Ay Kaatsız (2025), Roney et al. (2024), Hayakawa et al. (2023)
	Employment status	Favrod et al. (2018)
	Previous experience	Alharbi and Alkhamshi (2024)
	Shift length	Alharbi and Alkhamshi (2024)
	Working overtime	Alharbi and Alkhamshi (2024), Roney et al. (2024)
	Caring for more specific patients	Roney et al. (2024)
	Voluntary career choice	Ergül and Ay Kaatsız (2025), Tokathioğlu & Güner (2025)
	Job satisfaction	Ergül and Ay Kaatsız (2025)
	Responsibility	Beck et al. (2015), McGibbon et al. (2010)
Organizational factors	Social support	Abu-Sharkia et al. (2020), Hamama et al. (2019), Ergül and Ay Kaatsız (2025), Barr (2017)
	Organizational support	Kleis and Kellogg (2020), Maytum et al. (2004), Yehene et al. (2024), Sano et al. (2018)
	Collegiality	Sano et al. (2018)
	Vigor	Nissanholtz Gannot et al. (2022)

3 | Results

3.1 | Characteristics of the Studies

Of the 24 included studies, all quantitative studies ($n = 16$) used cross-sectional designs, except for one quasi-experimental design. Mixed-method studies ($n = 4$) employed convergent designs. Three qualitative studies employed descriptive qualitative design ($n = 2$) and ethnographic design ($n = 1$). Regarding geographic distribution, 10 articles were published in the United States and Canada, while the remaining studies were conducted in the Middle East ($n = 10$), Europe ($n = 2$), and Asia ($n = 2$). The study settings included NICU and well-baby clinic ($n = 6$), pediatric intensive care unit (PICU) ($n = 3$), and multi-ward or unspecified settings ($n = 15$). Four instruments were used to measure STS: Professional Quality of Life Scale ($n = 10$), Secondary Traumatic Stress Scale ($n = 9$), Compassion Fatigue Self-Test ($n = 1$), and Impact of Event Scale-Revised ($n = 1$).

3.2 | Pediatric Nurses' STS Level

Overall, 15 studies assessed the frequency of STS occurrence among pediatric nurses, including NICU and well-baby clinic nurses ($n = 3$), pediatric emergency department and PICU

nurses ($n = 1$), and multi-ward or unspecified settings ($n = 11$). The reported STS rates ranged from 49% to 50% among NICU nurses, 19.4% among nurses working in the pediatric emergency department and PICU, and 13% to 87% among multi-ward nurses.

Regarding comparative studies, two studies examined differences in STS between pediatric nurses and other health-care professionals, including physicians, allied health professionals ($n = 1$), and midwives ($n = 1$). STS levels in pediatric nurses did not differ statistically from those of physicians; however, pediatric nurses reported significantly higher STS levels compared to allied health professionals and midwives.

3.3 | Traumatic Events Reported by Pediatric Nurses

Traumatic events were categorized as patient-related and parent-related. Patient-related events included dealing with death and dying patients ($n = 7$); resuscitating an infant ($n = 2$); specific diseases, injuries, or disabilities (genetic disorders, congenital deformities, massive bleeding, and child abuse)

($n = 5$); and exposure of oneself or a close relative to war-related incidents, such as rocket attacks ($n = 1$). Parent-related traumatic events were also identified in several qualitative studies and included witnessing intense family grief ($n = 5$) and managing parental aggressive or hostile behaviors ($n = 3$).

3.4 | Factors Contributing to STS in Pediatric Nurses

3.4.1 | Individual Factors

Several studies examined individual-level factors associated with STS among pediatric nurses. These factors included general characteristics—such as age ($n = 5$), marital status ($n = 3$), religiosity ($n = 1$), and education level ($n = 1$); psychological competencies—such as emotional intelligence ($n = 1$), self-compassion ($n = 2$), and self-differentiation ($n = 1$); and coping-related factors, including coping strategies ($n = 7$) and coping flexibility ($n = 1$). The impact of age on STS yielded mixed findings. While one study indicated an increase in STS with advancing age (Güntüsen et al. 2018), others found a contrary association (Favrod et al. 2018; Hamama et al. 2019). Other demographic characteristics were not significantly associated with STS. Emotional intelligence, reflecting the ability to perceive, understand, and regulate one's own and others' emotions, was negatively correlated with STS. Self-compassion, defined as a kind and nonjudgmental attitude toward oneself in the face of suffering, was also negatively correlated with STS. Self-differentiation—the ability to maintain emotional autonomy while remaining connected to others—was not significantly associated with STS. Higher coping flexibility was associated with lower STS, whereas the use of negative coping strategies, such as denial and behavioral disengagement, was associated with higher STS.

3.4.2 | Work-Related Factors

Work-related factors examined included years of professional work experience ($n = 4$), employment status ($n = 1$), working overtime ($n = 2$), previous experience ($n = 1$), shift length ($n = 1$), voluntary career choice ($n = 2$), job satisfaction ($n = 1$), and sense of responsibility ($n = 2$). Findings regarding years of professional experience were inconsistent, with most studies reporting no statistically significant association with STS. In contrast, working overtime was consistently associated with higher STS. Nurses who chose the profession voluntarily reported lower levels of STS, and job satisfaction showed a negative correlation with STS. A sense of responsibility toward pediatric patients also emerged as a significant work-related factor, particularly nurses who felt a strong sense of responsibility during crisis situations, such as sudden deterioration in patients' conditions, tended to experience higher levels of secondary traumatic stress.

3.4.3 | Organizational Factors

Social support ($n = 4$), organizational support ($n = 3$), and organizational atmosphere ($n = 2$), such as collegiality and vigor, were investigated as organizational factors associated with STS. Social support, which refers to receiving support and assistance from family, friends, and significant others, was

negatively correlated with STS. Similarly, organizational support was negatively correlated with STS. Nurses experiencing STS frequently reported insufficient organizational support, indicating a lack of recognition of their mental health needs and limited organizational-level support, such as educational and prevention programs, emotional support systems, and sufficient rest. Lower STS levels were observed among nurses working in departments characterized by higher levels of vigor, defined as a positive affective state or mental energy, and high collegial relationships between doctors and nurses.

4 | Discussion

This integrative review was conducted to identify STS levels, traumatic events, and contributing factors among pediatric nurses. Although existing literature provides some insights into STS, further research is needed to better understand STS, particularly in pediatric nursing. It is important to note that the included studies were conducted internationally with varying health care systems, which may influence STS experiences and reporting. Nevertheless, STS continues to represent a significant risk to the mental health of pediatric nurses.

The prevalence of STS among pediatric nurses has been reported over a wide range due to differences in instruments and cut-points. Nevertheless, more than half of nurses were exposed to moderate or higher levels of STS, reporting traumatic events related to patients or their parents. The high levels of STS reported among pediatric nurses are comparable to those observed in ICU and emergency department nurses, who are frequently exposed to traumatic events (Duffy et al. 2015). Furthermore, the level of STS was higher in pediatric nurses than that observed in labor and delivery nurses (Nicholls et al. 2021), psychiatric nurses (Xie et al. 2020), and oncology nurses (Cai et al. 2024). This suggests that pediatric nurses experience substantial exposure to traumatic events and are consequently at a high risk of experiencing STS (Yehene et al. 2024). These findings extend beyond individual well-being with important implications for healthcare systems: high STS is associated with decreased job satisfaction, reduced workability, and increased turnover intentions, posing risks to both nurse well-being and patient safety (Forsyth et al. 2022; Rauvola et al. 2019). Therefore, healthcare leaders and policymakers should prioritize strategies to prevent and manage STS to support nurse well-being, enhance retention, and ensure safe, high-quality patient care.

Pediatric nurses frequently encounter traumatic events similar to those reported by ICU nurses, including patient death, end-of-life care, and resuscitation (Stelnicki et al. 2021). Patient death was the most commonly reported event among nurses and was associated with grief, helplessness, and emotional distress (Favrod et al. 2018). Additionally, parent-related events, such as parental despair, unrealistic expectations, excessive demands, and aggressive behaviors, contributed significantly to STS (Beck et al. 2017; McGibbon et al. 2010). Providing care for both suffering patients and grieving families, combined with emotional identification, increases the risk of STS among pediatric nurses (Lima et al. 2018; Maytum et al. 2004). Although compassion in nursing entails recognizing patients'

suffering and providing care, excessive emotional empathy, or over-identification with patients' suffering, can increase vulnerability to STS (Latimer et al. 2017). As nursing inherently requires sustained compassionate engagement, reducing compassion is neither feasible nor desirable. Therefore, further research is needed to investigate how nurses can provide appropriate compassion toward patients while maintaining an appropriate emotional distance without becoming emotionally overidentified (Isobel and Thomas 2022).

General characteristics, including age, work experience, and education level, were not consistently associated with STS among pediatric nurses (Hamama et al. 2019; Kellogg et al. 2018; Nissanholtz Gannot et al. 2022), aligning with findings from a systematic review and meta-analysis of emergency department nurses (Xu et al. 2024). Psychological competencies have emerged as important contributing factors. Emotional intelligence, which facilitates the recognition and regulation of one's own and others' emotions, may enable nurses to manage the emotional demands of clinical practice effectively, thereby serving a protective role against STS (Jawabreh 2024). Similarly, self-compassion allows nurses to navigate stressful clinical situations with resilience, further mitigating the risk of STS (Ewert et al. 2021). Effective coping strategies also mitigate STS by reducing psychological distress resulting from traumatic experiences (Isobel and Thomas 2022). Strategies such as problem-solving and seeking social support have also demonstrated benefits in ICU nurses (Moore and Schellinger 2018; Al Barmawi et al. 2019). However, clinical nurses still tend to underutilize problem-focused coping strategies, relying predominantly on emotion-focused approaches (Minnie et al. 2015). Furthermore, the effectiveness of coping strategies may vary depending on the context and type of strategy employed, highlighting the need for further research on STS and effective coping strategies among nurses (Ratrout and Hamdan-Mansour 2020).

Regarding work-related factors, participants' previous experience, shift length, and working overtime were significantly associated with STS. Longer working hours and greater exposure to traumatic events may exacerbate stress and act as antecedents for secondary traumatic stress (Coetzee and Klopper 2010). Although few studies have examined the role of voluntary career choice, nurses who voluntarily chose the nursing profession reported higher job satisfaction, lower anxiety, and lower STS (Çolak Yilmazer and Buldukoğlu 2021). Job satisfaction is a well-established determinant of professional quality of life (Stamm 2010) and has consistently been shown to be negatively associated with STS, as evidenced in ICU nurses (Salimi et al. 2020), suggesting that enhancing job satisfaction may serve as a protective factor against STS.

Organizational factors, such as collegial relationships, vigor, and social support, play a crucial role in mitigating STS among nurses. These findings align with the conservation of resources theory, which posits that stress emerges when resources are depleted or threatened, underscoring the importance of adequate resources in preventing emotional exhaustion (Hobfoll et al. 2018). Support from family, friends, or colleagues enables healthcare providers to process traumatic experiences constructively and promotes adaptive coping (Cieslak et al. 2014).

Additionally, sufficient organizational resources enhance trauma integration, psychological growth, and resilience, thereby encouraging engagement in effective coping strategies (Coetzee and Klopper 2010). However, despite the protective role of organizational factors in mitigating nurses' STS, current evidence remains insufficient to draw definitive conclusions regarding their effects.

Healthcare organizations should implement targeted interventions that consider individual, occupational, and organizational characteristics to support nurses at risk of STS. Berger and Gelkopf (2011) demonstrated that increasing pediatric nurses' awareness of STS and providing education on personal coping strategies can effectively reduce STS. Additionally, structured opportunities to share experiences related to traumatic events, along with reflective practices and spiritual coping, have been shown to alleviate STS among nurses (Beck et al. 2017). Accordingly, healthcare organizations should prioritize strengthening nurses' individual coping capacities by providing and maintaining adequate support (Zhang et al. 2025).

5 | Limitations

As this integrative review was confined to articles in English, there might be additional articles published in other languages that could provide further insights into STS in pediatric nurses. In addition, the small number of included studies precluded subgroup analyses and meta-analyses based on regional, unit-level, or individual characteristics. Furthermore, this review did not examine STS management or intervention strategies. Although the existing literature highlights the importance of supportive peer relationships, resilience enhancement, and adaptive coping strategies, empirical evidence regarding the effectiveness of these approaches, particularly within pediatric nursing, remains limited.

6 | Implications for Nursing Practice

Addressing STS among pediatric nurses requires a multi-level approach. At the individual level, nurses should be educated to recognize the risks of traumatic events and adopt strategies to manage STS effectively. At the organizational level, healthcare organizations and nursing leadership should implement interventions such as adequate staffing, structured support programs, and access to mental health services to promote psychological growth and resilience, thereby reducing vulnerability to STS. At the policy level, healthcare systems must establish clear guidelines and allocate resources to prevent and manage secondary traumatic stress, ensuring sustainable nurse well-being, retention, and quality of care.

7 | Conclusion

Pediatric nurses are at high risk of STS owing to frequent exposure to traumatic events while caring for vulnerable and sick infants and children. Specifically, experiences such as patient deaths, worsening illnesses, and caring for grieving parents can contribute to STS, ultimately compromising their competence in quality of care and job satisfaction. Nurses need to recognize

the traumatic events and factors that contribute to STS and seek organizational support to reduce them. Additionally, nurse managers and policymakers need to consider ways to promote mental well-being for pediatric nurses by paying attention to and effectively managing STS.

Author Contributions

Heemoon Lim made substantial contributions to the conception and design of the work, acquisition of data, analysis and interpretation of data, drafting of the work, revising the work critically for important intellectual content, and final approval of the version to be published. Won Jin Seo made substantial contributions to the acquisition of data, analysis and interpretation of data, and final approval of the version to be published. Hyejung Lee made substantial contributions to the conception and design of the work, acquisition of data, analysis and interpretation of data, revising the work critically for important intellectual content, and final approval of the version to be published.

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Ethics Statement

As this study was an integrative review, Institutional Review Board approval was not necessary.

Data Availability Statement

Data may be available upon request to the corresponding author, depending upon privacy/ethical/embargo restrictions.

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Appendix A

Search Strategy and Results

Search (S) terms	CINAHL	EMBASE	PsycINFO	PubMed	Web of Science
S1 nurse*	620,275	685,376	99,484	515,558	407,830
S2 pediatric	248,622	1,503,427	72,558	1,441,706	478,864
S3 neonatal	90,455	451,735	24,400	907,844	286,673
S4 Child*	1,007,582	4,749,762	1,078,790	3,608,478	2,095,718
S5 PICU	6819	20,607	604	9303	9055
S6 NICU	17,360	36,240	2140	37,508	18,396
S7 "Nurses, Neonatal" [Mesh]				264	7645
S8 "Nurses, Pediatric" [Mesh]				690	12,682
S9 secondary traumatic stress	1653	6330	4061	6811	5300
S10 secondary traumatization	1182	320	547	2704	751
S11 compassion fatigue	15,425	3,208	2590	2528	3541
S12 vicarious trauma	1330	751	1952	2917	1312
S13 indirect trauma	74	5911	2538	9,813	4244
S14 "Compassion Fatigue" [Mesh]				1329	23
S15 S1 AND (S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8)	59,979	116,141	21,032	84,049	36,320
S16 S9 OR S10 OR S11 OR S12 OR S13 OR S14	15,981	15,126	9351	16,911	12,674
S15 AND S16	478	346	128	289	285