Secondary traumatic stress experiences of nurses caring for cancer patients

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Abstract

Aim: The aim of this study was to explore secondary traumatic stress experiences of nurses caring for cancer patients.

Methods: A qualitative descriptive approach was taken in the study. The team conducted semi-structured in-depth interviews with 13 oncology nurses. We evaluated the responses collected using content analysis.

Results: Three distinct themes emerged from the interviews: cycle of desperation, coping, and change.

Conclusion: Based on the results obtained, it is suggested that programs containing cognitive restructuring techniques be developed; peer support groups may enable senior nurses to guide inexperienced nurses.

KEYWORDS cancer, compassion fatigue, nursing, oncology, secondary traumatic stress

SUMMARY STATEMENT

What is already known about this topic?
- Witnessing traumatic experiences while giving care, especially when providing end of life care, may cause secondary traumatic stress.

What this paper adds?
- Nurses reported that after they started caring for cancer patients and families, their priorities changed and they became more resilient.
- Nurses seem to cope with secondary traumatic stress by acquiring new perspectives on coping.
- Factors such as the experience level of nursing staff, caring for young patients, and the insufficiency of nurses contribute to secondary traumatic stress.

The implications of this paper:
- It is possible for psychiatric nurses who are experts in this area to help nurses find new meaning by using cognitive restructuring techniques.
- Peer support groups could be useful and inexpensive tools for alleviating secondary traumatic stress.
- Guidance from senior nurses could benefit inexperienced nurses.

1 | INTRODUCTION

Oncology is a field that requires intensive interaction between the nurse and the patient (Perry, Toffner, Merrick, & Dalton, 2011). Oncology nurses have important roles in the care of patients with serious, life-threatening illnesses (Aycock & Boyle, 2009). They observe patients through the full cycle from diagnosis to treatment, and sometimes death (Vishnevsy, Quinan, Kilmer, Cann, & Danhauer, 2015). Caregiving is often rewarding and satisfying for nurses. However, witnessing traumatic experiences while giving care, especially when providing end of life care, may cause secondary traumatic stress (STS) (Perry et al., 2011; Quinal, Harford, & Rutledge, 2009). The patient-nurse relationship is rarely studied as a stressor in nursing research literature, but STS is caused by long-term exposure to stress. Intense contact with patients is a progressive and cumulative process...
Secondary traumatic stress is an important problem for nurses because of the adverse effects on mental and physical health, as well as the negative effects on job performance. Nurses who experience STS have physical and psychological problems, including headaches, weight loss, fatigue, sleep problems, anger, forgetfulness, and gastrointestinal diseases (Bush, 2009; Najjar et al., 2009). Nurses who experience STS often express a desire to quit their jobs, suggesting that STS may be a predictor of staff turnover (Sung, Seo, & Kim, 2012). In a survey of 650 oncology nurses in China, 37% working on inpatient oncology units were at risk for STS (Yu, Jiang, & Shen, 2016). A challenge facing oncology nurses is a blurring of the line between professional and personal domains. Blurred emotional boundaries can result in STS as nurses absorb the distress, anxiety, fears, and trauma of their respective patients (Bush, 2009).

This risk emanates not only from the patient group that oncology nurses work with, but also from their particular work environments. Hence, understanding the requirements and experiences of oncology nurses is essential for the design of prevention programs (Quinlan et al., 2009). There are currently no universal guidelines to help nurses protect themselves from STS. Understanding how nurses in various cultures and work settings experience and cope with STS provides opportunities to find commonalities and to develop intervention programs. It has been suggested that the understanding and prevention of STS may have positive effects on patient care outcomes (Yoder, 2010).

2 METHODS

2.1 Aims

The aim of this study was to explore the experiences of STS among nurses caring for cancer patients.

2.2 Study design

A descriptive qualitative phenomenological approach was adopted based upon the study originally conducted by Edmund Husserl (Husserl, 1931). Husserl emphasized that knowledge of experiences occurs within the consciousness of human beings (McConnell-Henry, Chapman, & Francis, 2009). In this context, it is important to stay away from prejudiced ideas in order to reveal the true essence of the experience (Lopez & Willis, 2004). The rationale for using Husserlian phenomenology was to better understand each nurse’s experience in their respective circumstances. The report of this study followed the Consolidated Criteria for Reporting Qualitative Research guidelines (Tong, Sainsbury, & Craig, 2007).

2.3 Settings and participants

This study was conducted from September to December 2016, with nurses who worked at the oncology inpatient clinic of a university hospital in Western Turkey. We used purposeful sampling to select nurses for the study. The inclusion criteria were as follows: worked as an oncology nurse for a minimum of 6 months; voluntary participation; experience with cancer patients; and experience of STS. Before the interviews, STS was explained, and the nurses were asked whether they had experienced symptoms. Nurses who stated they had experienced STS and agreed to participate in the study constituted the study sample.

In the hospital where the study was conducted cancer patients are primarily adults; children are normally treated in a separate facility. However, paediatric patients may stay in the adult oncology unit in the event of space constraints in paediatric oncology. Hence, nurses in the sample had experience caring both for paediatric and adult patients.

To determine the sample size, we used a sampling approach, which requires researchers to continue collecting data until reaching a saturation point, that is, the point at which no new information is obtained. When the terms and processes begin to repeat themselves, a sufficient amount of data has been obtained (Carpenter & Speziale, 2003). There are 18 oncology nurses working at this clinic, and we reached saturation at a sample size of 13. Two nurses declined to be interviewed due to lack of availability.

2.4 Data collection

After the work schedule of nurses working in the oncology clinic was obtained from the chief nurse, the researchers went to the clinic daily and identified nurses who met the sample selection criteria. The nurses who met the inclusion criteria were informed about the study purpose and their consent was obtained. After making an appointment with the nurses for the end of their shift, they were interviewed in the clinic’s meeting room. Participants provided a single, semi-structured interview. The interview notes included expressions of participants’ body language and emotions. Interviews were voice-recorded in a room that was silent, illuminated, and comfortable enough for the individuals to express themselves without interruption.

We used a personal information form and interview guide, prepared by the researchers, after a review of relevant literature. The personal information form included questions on sociodemographic characteristics such as age, gender, marital status, income level, and work experience. The semi-structured interview guide was used to elicit the experiences of oncology nurses about STS while caring for cancer patients. The following questions were asked: Would you please explain your STS experiences related to providing care for cancer patients? What kind of an effect did it have on you? What did you do to cope with STS? The interviewer then followed up with
additional open-ended questions based on the individual participant's responses.

The interviews lasted between 28 and 63 minutes. Field notes taken by the interviewer were taken into consideration during the analysis process. These notes included observations of the participants' expressions and body language. These notes were used during subsequent data analysis.

2.5 Data analysis

Sociodemographic variables were expressed as means and numbers. All recorded interview data were transcribed without any changes. Field notes recorded by the interviewee were taken into consideration during the analysis process. Content analysis was used to analyse the data.

First, three researchers read the transcribed interviews several times individually to understand them in general. Next, they separated the text into condensed meaningful units (A meaning unit was words, sentences or paragraphs containing aspects related to each other through their content and context). Then, they abstracted the content, and each meaning unit was referenced with a code. They subsequently compared the codes in terms of their similarities and differences and arranged them into categories. Finally, the data were sorted and reported by the researchers. Themes were identified and named after the classification process (Graneheim & Lundman, 2004). The researchers performed these processes individually and independently from each other. The researchers discussed the thematic statements. They agreed on the themes which described the findings best. The interviews were conducted in Turkish and then translated into English. The researchers controlled the translations and decided to use idiomatic translations that expressed the expressed content and not literal translations. An example of content analysis is given in Table 1.

2.6 Trustworthiness

The report of this study followed the Consolidated Criteria for Reporting Qualitative Research guidelines (Tong et al., 2007). The research team consisted of four female academic investigators, all of whom had a PhD. Three were experienced in qualitative research. For consistency, all interviews were conducted by the same researcher. The interviewer was a psychiatric nurse, with a PhD degree. She is experienced in qualitative research and had a record of extensive training. Data were analysed independently by three researchers, and differences between the results were resolved by consensus. The results were organized and documented by the investigators.

Trustworthiness of the data was derived based on strategies established by Jiggins Colorafi and Evans (2016), namely credibility, transferability, dependability, and confirmability. To ensure the internal validity and credibility of the study, at the beginning of the interviews, the participants were encouraged to explain their views freely. The interview questions only started when it was felt that the participant was comfortable and open enough to talk. All interviews were conducted privately without the presence of any additional individuals, except the researcher and the participant. Although the interviews were conducted efficiently, the participants displayed comfort in expressing themselves within the allotted time. To provide credibility, the opinions of the nurses are presented with explanatory notes. The sufficiency of the researcher's data to answer the research question has been clearly presented. The interviews were terminated at the point of satisfaction when the information collected met the objectives of the study.

To ensure the external validity (transferability) of the study, two methods, namely thick description and purposive sampling, were used. The researcher sorted the data collected during the interviews according to the emergent themes and presented them preserving the data authenticity and without any interpretations. The nurses suitable for the objective of the study were identified by the purposive sampling method. To ensure the internal reliability-consistency of the study, the researcher behaved consistently towards the interviewees at all stages of the study. The researcher used the same voice recorder and the interview guide during all interviews. To ensure the external reliability of the study, the researchers were required to confirm the results of the study across all the data collected, providing a rational explanation to the reviewer within this frame. Furthermore, the notes were saved for follow-up review, if required.

Reflexivity was essential as the principal researcher (first author) was working in the same campus, and participants were familiar with the interviewer, as she had previously been collecting survey data for a different study. Participants were aware of the interviewer’s nursing experience and personal interest in the topic. However, no personal relationship existed between the researcher and the participants. The researcher who interviewed the participants was working on improving the mental health of nurses. She faced many stressors related to the nursing profession in her professional life and tried to cope with them. Because many nurses experience the processes she experienced, her academic studies have focused on improving the mental health of nurses. The researcher has previously conducted

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<th>Theme Category</th>
<th>Coping</th>
<th>Seeking social support</th>
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<td>-Decreasing communication with patients and relatives</td>
<td>-Support of the senior nurse</td>
<td>-Having a hobby</td>
<td>-Belief in God</td>
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<td>-Avoid establishing a bond</td>
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<td>-Visiting the patient less frequently</td>
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<td>-Deferring questions to the doctor</td>
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programs to improve the mental health of nurses in other units of the same university hospital. The researcher, who is influenced by the effects and results of STS experiences on nurses, has a desire to help nurses by understanding their experiences with STS. The first researcher who interviewed the participant nurses was careful not to allow her own professional experience and assumptions about STS influence her interaction with the participants.

2.7 Ethical considerations

Permission was obtained from the Noninvasive Research Ethics Board at the relevant university, and written permission was obtained from the institution where the study was conducted. The participants were informed as to the aims of the study, as well as the benefits, risks, and confidentiality guarantees. All participants gave written and verbal informed consent. Throughout the study, attention was paid to participants' rights to autonomy, dignity, informed consent, voluntariness, and confidentiality.

3 RESULTS

A total of 13 oncology nurses participated in this study. The average age of the nurses was 31 and all were women. All the participants had obtained a bachelor's degree in nursing. One of the nurses had a master's degree. Seven were married, and five had children. The mean length of their total work experience was 9 years, and their mean oncology experience was 4 years.

Three main themes emerged from the qualitative interviews: (1) cycle of desperation; (2) coping; and (3) change.

3.1 Cycle of desperation

The theme of cycle of desperation focused on the deep feelings experienced by nurses during the process of care. Nurses do their best to help patients; however, they invariably reach a limit when they think they cannot provide sufficient care.

Nurses experience physiological and psychological problems when providing care to patients, especially those near death. The nurses indicated that they establish close bonds with the patients to whom they have been giving care for long periods of time. This bond is especially strong when the patient is a child or young adult. Two of the nurses who participated in the study mentioned that they are typically affected more when caring for child patients, particularly after becoming mothers themselves. They feel bad when they cannot diminish their patient's pain. Nurses describe feelings of frustration accompanied by feelings of helplessness, especially when their attachment to the patient and have long cared for and witnessed their illness experiences, faced with pain, suffering, and death of the patients. A sense of guilt, powerlessness, hopelessness, and even despair is related to the inability to provide the care they thought they ought to offer within the realities of the health care system.

Many nurses complain about the insufficient numbers of nurses and the fact that they are adversely affected by the lack of attention. The fact that nurses cannot spend sufficient time with their patients, due to work overload, results in nurses feeling guilt and desperation when they realize they are powerless to change the situation. The nurses, who were less experienced, stated that they were more deeply affected by traumatic situations relative to more experienced nurses. Nurses commented on this issue:

There was a young person who affected me strongly. I cannot forget him ... He was telling me [about] the place where he lived. He said that he would settle down there after retirement [gulped and then started crying]. I was deeply affected, I still am... (Nurse 6)

You become family to the patient. I had established a close relationship with a patient I cared for and we had an intense interaction. It was a painful death. The day she died, I accidentally hit my back on a door and my head on a hanger because I was distracted by grief. Although I am professional, I was very restless, agitated, and nervous. I did not want her suffocated. I did not want her to die suffocating. It's really sad for me to see her dying in pain. (Nurse 1)

A 3-year-old girl had a catheter 3–4 days ago. She went again to have a catheter today and was constantly crying. I started to call the child "my little one." I sat next to her for half an hour and tried to calm her down, as if I was her mother. You unavoidably put yourself into the place of her mother. Being a mother has affected me a lot. I cannot work with patients who are children. I can provide care for only one child patient each time. (Nurse 3)

We work very long hours ... we cannot get our labour's worth [sic]. We cannot provide the care required by the patients, we are not enough, [and] this makes us feel guilty. (Nurse 12)

3.2 Coping

Nurses use various strategies for coping with STS. In this way, they try to balance the deep feelings they experience. Coping strategies employed by nurses are as follows: avoidance, seeking social support, balancing professional and social life, and spirituality.

Some nurses indicated that they avoid establishing intimacy with their patients. To avoid the emotional burden of work, these nurses said they tried to distance themselves from patients and their families. They expressed that they did not want to develop any attachment. These nurses express feelings of being torn between their desire to help the patients and the need to protect themselves. One of the nurses expressed that she does not want to give bad news to the patient or to their relatives; in such cases, she asks the patient and...
their family to discuss the issue directly with the doctor. The following statements reflect the avoidance sentiment:

I limit what I share and do not go into their private lives. This was the solution I could find. What we share should be limited because I am a human being as well. (Nurse 4)

I try not to communicate too much with patients. When the patient gets worse, I try not to wait in his/her room too much. I let the doctor intervene there. Frankly, I tell them “I cannot answer right now and please talk to your doctor”. I always give them an evasive answer, because I do not want to see them sad. At least I do not want them to hear bad news from me. (Nurse 13)

Almost all participants expressed that social support from their colleagues and family made it easier for them to cope with difficulties. The nurses think that they are best understood by their colleagues and indicate that they comfort themselves by sharing their experiences with their friends. Nurses explained,

They support you when you make mistakes or feel sad. In that sense, I feel that there are positive relationships here in terms of work. It makes work easier. It would be much more difficult if there was no social support, I think it makes things easier. (Nurse 9)

Our chief nurse often comes to the floor, provides leadership, and shapes the cases. Because she is very experienced, she is a role model here. When you look at her, you can see [how] she copes with [the situation]. This eases us. (Nurse 6)

The nurses believe that non-work activities are important for coping. A majority indicated that they comfort themselves with social activities such as going to the cinema, reading, hanging out with friends, etc. In this way, they feel well-rested until they start working again. They return to work feeling both physically and emotionally better. Participants commented,

This is not the place I focus for relaxation. This is my workplace. As for social activities: I dance, I am interested in my personal development, I spend time with my friends. I hang out with people. (Nurse 4)

I have ways of coping with stress, such as knitting, solving puzzles, and travelling with my sister. Leaving the hospital in the hospital. Cooking, taking care of housework, going out with friends. Knitting is so comforting. (Nurse 8)

The nurses indicated that it is comforting to put their trust in God, and to pray when they can do nothing to reduce the pain of their patients. One nurse stated that one’s life is subject to fate, and that circumstances cannot be changed no matter what. She added that this thought makes her feel more comfortable:

I am a religious person. I cannot change things if we are nearing the end [of a patient’s life]. That is divine justice. I can say that it is fate. I do my best but what I can do is limited. (Nurse 4)

Another nurse expressed how she is comforted by praying:

We pray a lot. That also helps. As a nurse, you do whatever you can, but asking for help from a Being that is stronger than you and asking for what is best for the patient makes one feel more comfortable. (Nurse 6)

3.3 | Change

Secondary traumatic stress causes both positive and negative changes for nurses. The theme of change consists of the sub-themes of personal maturation and psychological fatigue.

3.3.1 | Personal growth

Nurses reported that after they started caring for cancer patients and families, their priorities changed, and that they became more resilient. Some indicated that things they previously viewed as important lost significance to them. Others stated that the stress they experience had positive results, such as making their perspectives on life more positive, developing their communication skills, strengthening their coping skills, and getting satisfaction by way of helping people in need.

One of the nurses in the interview explained,

Life is no [longer] chaotic for me. I try to live simply. Because here you see the shortness of life and meaninglessness of some things. It also made me more relaxed spiritually, I live more strongly now. My whole perspective towards life has changed. (Nurse 6)

Being here makes me question life and death. I think that observing these stages in patients makes a person look [more] optimistically towards life. Observing patients’ acceptance and mourning processes influences a person very much. You want to do something for yourself. I think we should live life to the fullest because we do not know what will happen when. I think it gives [us] maturity. (Nurse 8)

3.3.2 | Psychological fatigue

Nurses have difficulty due to the care given to the cancer patients. They experience negative physical and mental changes because of this difficulty. There are also negative changes in the attitudes of the nurses towards their job. Most of the nurses mentioned physical effects of the stress they encounter, such as burnout, hypertension, etc., as well as emotional effects, such as weariness, exhaustion, and depression. In addition, some nurses state that they cannot find the
time and energy to allocate to their family lives. Some describe negative effects such as not wanting to go to work and a desire to quit. The severity of stress is highlighted in one nurse’s comments:

I used to [push] this all on my spouse. I had a very serious argument with my spouse about two months ago, we were almost at the brink of separation. I was very nervous at home after a stressful day. Bringing work to home. That was the reason. (Nurse 1)

There’s too much fatigue. Feeling disinclined. Spiritual tiredness...no desire to come to work. I have a stomachache when I come to work. I am worried the day will be too hectic. I worry someone will get worse. (Nurse 10)

I am taking antidepressant medication right now. You have close contact with your patients if they have a long hospitalization. You know their pain. You share their problems. I remember many times when I woke up crying at night. I suffered from insomnia for a while. (Nurse 2)

4 | DISCUSSION

This study sheds light on STS experiences of nurses who care for cancer patients. In this study, the three themes of cycle of desperation, coping, and change were observed. Nurses have difficulty while caring for cancer patients. They think they cannot care for the patients sufficiently and may experience negative feelings depending on the circumstances. They try to cope with these difficulties through various strategies, including avoidance, seeking social support, balancing professional and social life, and spirituality. Working with cancer patients causes changes in nurses; namely, changes occurred in the nurses’ viewpoints on life. Negative results in physical and mental health were also observed in the nurses.

In the context of the cycle of desperation, nurses want to do more for patients and feel helplessness and guilt when they cannot. A survey study found a close relationship between empathy and guilt feelings in nurses. Nurses may feel unbalanced empathy and guilt when they have unrealistic beliefs about their responsibilities (Duarte & Pinto-Gouveia, 2017). Also, failure to allocate the time that patients deserve and to provide quality care results in feelings of desperation and guilt. Heavy workloads and inability to allocate sufficient time to the patients cause STS (Maytum, Heiman, & Garwick, 2004; Yoder, 2010). It was noted by nurses participating in the study that they are more strongly affected by young and child patients. In Mukherjee, Beresford, Glaser, and Sloper’s (2009) study, nurses were observed to suffer stress when they witness a child’s pain and suffering, have to care for a dying child, are expected to support parents, or are involved in the delivery of inadequate or inappropriate care. Seeing a child and their family suffer and not being able to do something to address their pain is a stressful situation (Günüşen, Wilson, & Aksoy, 2018; Maytum et al., 2004). Working with children or young cancer patients places the nurses at higher risk for developing STS. It is suggested that nurses working with these groups should be assessed in terms of STS and participate in prevention studies.

Yoder (2010) determined that nurses minimize their commitment to patients in order to cope with STS. Beck (2011) found that nurses who experienced STS avoid being around patients. These nurses attempt to protect themselves by placing a distance between themselves and their patients (Günüşen et al., 2018). It was noted by nurses that they often re-direct questions to the patient’s primary doctor to avoid close interaction. This situation shows that STS affects all health professionals. In this respect, it is important to take all health professionals into consideration.

The nurses emphasized that they found comfort in their spiritual practices. Maytum et al. (2004) found that spiritual beliefs of nurses were very important for coping. Nurses develop methods that make them feel more comfortable in the face of death. Changes occur in the spiritual and religious perspectives of oncology nurses (Vishnevsky et al., 2015). Spiritual and religious beliefs help people find meaning in their experiences (Günüşen et al., 2018; Pulchaski & O’Donnel, 2005). A study of Muslim nurses in Turkey reports that nurses are involved in religious practices for coping with STS, praying for their patients, and hoping they will recover (Günüşen et al., 2018). There is a need for a better understanding of the spiritual practices of nurses. It is worthwhile to study how these methods vary in different ethnic and cultural contexts.

Almost all of our participants expressed that social support from colleagues made it easier to cope with difficult situations. Nurses try to establish a balance between their professional and social lives. Establishing such a balance is important for coping (Quinal et al., 2009; Yoder, 2010). When an individual fills their life exclusively with their occupation, the individual often feels overloaded. Engagement in life outside of work enables the individual to maintain a unique perspective in the workplace (Perry et al., 2011). Beck (2011) determined that peer support is one of the factors that protect nurses from STS. Peer support groups for oncology nurses seem to be a promising and economical intervention for mitigating burnout, professional dissatisfaction, patient care distress, and interpersonal communication deficits (Wittenberg-Lyles, Goldsmith, & Reno, 2014). Most studies cited the need for management to promote or encourage group meetings or support groups to enhance personal resources for coping or to create a balance between professional and personal life that would prevent or reduce compassion fatigue in oncology nurses. Participants experienced rejuvenation, feelings of being appreciated, better coping with job difficulties, and the value of peer support groups (Wentzel & Brysiewicz, 2017; Wittenberg-Lyles et al., 2014). Senior nurses may support young and inexperienced nurses and be role models. Chief nurses have an important position in health care services in Turkey. The characteristics of the chief nurse influence the nurses working in the clinic (Günüşen & Üstün, 2009).

The nurses caring for the cancer patients experience both positive and negative changes as a result of their traumatic experiences. It has been reported that nurses develop new ways for coping...
because of STS, that they adapt their perspectives and attitudes related to life while trying to see the positive aspects of life (Yoder, 2010). Changes take place in the values of oncology nurses related with life and health (Vishnevsky et al., 2015). In our study, nurses emphasized that they became stronger after experiences with patients. This situation shows similarity with the concept of post-traumatic growth introduced by Tedeschi and Calhoun (2004). Post-traumatic growth has been defined as “positive psychological changes experienced as a result of struggle with highly challenging life circumstances” (Tedeschi & Calhoun, 2004). In addition to positive changes, there are negative changes in nurses. Perry et al. (2011) found negative effects in life outside of work for nurses who experienced STS. They often become insensitive and indifferent to family and their environment. Increases in headaches, loss of weight, fatigue, sleep problems, anger, forgetfulness, hopelessness, and gastrointestinal diseases have been observed in nurses affected by STS (Bush, 2009; Najjar et al., 2009). Anxieties and anger of nurses tend to increase, and they often experience restlessness and hypersensitivity (Gentry, 2002).

This study has provided a versatile viewpoint to the STS experienced by nurses caring for cancer patients. Although STS is a known concept, we developed a better understanding of how nurses feel about themselves. Moreover, the impact of being inexperienced, caring for young patients, and nurse insufficiency to the occurrence of STS has been revealed. Coping methods of the nurses with STS are indicators for the prevention of STS. It is important to support the nurses in social support groups, encourage guidance from senior nurses, and establish a balanced work and personal life.

### 4.1 Limitations

When the results of the present study are interpreted, it should be noted that there were some limitations. During the interviews, after the recordings were stopped, the nurses mentioned several things that they had not shared during the data collection process, suggesting that the use of a voice recorder might have affected their participation. However, the nurses who participated in the study shared their opinions willingly.

### 5 CONCLUSIONS

The study results provide important clues for interventional studies aimed at understanding and minimizing the effects of STS. Special attention should be given to nurses working with cancer patients. Nurses inexperienced with child and young patient care are at greater risk. Effective prevention and support should be provided. Hence, there is a need for interventional studies aimed at preventing and reducing STS, especially in high-risk fields such as oncology. There is a mental health support unit in the hospital where the study was conducted, but there is currently no active plan to support nurses working in this unit. Based on the results of this study, plans to target the difficulties experienced by nurses can now be implemented.

Nurses have indicated that these experiences led to changes in what they find important in life, as well to changed priorities. Nurses seem to cope with STS by acquiring a new perspective on coping. Recognizing and sharing positive changes by nurses can be a good example for other nurses experiencing STS. In this sense, in dealing with secondary trauma indications, it is possible for psychiatric nurses who are experts in this area to help nurses find new meaning by using cognitive restructuring techniques.

Social support groups may be formed for nurses working in the field of oncology. It is important to form a supportive working environment in which social support is provided at the department level. Nurses have expressed that the insufficiency of nurse staffing levels also contributes to the situation. The number of nurses continues to be a major problem in the world (Buchan & Aiken, 2008). It is not possible to change this in short term; therefore, creative strategies are needed to help reduce STS. To reduce the compassion fatigue levels of nurses, nurses must be trained about compassion fatigue, self-care practices, and stress management (Adimando, 2017). Self-care interventions come to the forefront in preventing STS or compassion fatigue. Practices such as exercise, good nutrition, and relaxation are effective in this context (Altounji, Morgan, Grover, Daldumyan, & Secola, 2013; Houck, 2014). Due to the increase in technological developments in recent years, positive results regarding initiatives made through smartphones are promising for STS intervention studies. (Morrison Wylde, Mahrer, Meyer, & Gold, 2017).

Spiritual practices also have an important role for helping nurses cope with STS. It is suggested to conduct qualitative studies to understand how these practices occur in different cultural and religious groups. Nurses, who care for these patients, do not experience STS in isolation; the broader health care team is also affected by this problem. Therefore, it is suggested that qualitative studies are conducted in the future to understand how the overall health care team experiences STS. It is important to consider the entire health care team in preventing or reducing STS to create a supportive work environment.

### FUNDING

The authors received no financial support for the research, authorship, and/or publication of this article.

### CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### AUTHORSHIP STATEMENT

NPG conceived the study. NPG, BÜ, PSA and DBB were responsible for data management and study design. NPG, BÜ and PSA responsible for data analysis. All authors drafted and revised the manuscript.

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