ORIGINAL RESEARCH

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Impact of Caring for Pediatric Oncology Patients on Health Professionals' Life: A Qualitative Study

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ABSTRACT Objective: As cancer is a leading cause of death for children globally, getting treatment at a medical center specializing in pediatric oncology can help pediatric oncology patients get the best possible medical care and treatment. Caring for pediatric oncology patients is a comprehensive process that synergistically affects all health professionals' quality of life. The purpose of this study was to determine the positive and negative impact of caring for pediatric oncology patients on health professionals' life. **Material and Methods:** A descriptive qualitative research study was conducted with 19 health professionals from the pediatric oncology clinic of a university hospital in Turkey. Data were collected through semi-structured in-depth interviews and analyzed with thematic analysis. **Results:** In the study, three themes and nine sub-themes were created for the positive impact and negative impact of caring for pediatric oncology patients on health professionals' life. For positive impact themes were the development of social relation, strengthening of spirituality, and psychological empowerment; for negative impact themes were changes in attitude and feelings, changes in thoughts about the future, emergence of fears. **Conclusion:** This study revealed that caring for pediatric oncology patients had a positive impact as well as a negative impact on health professionals' life. Our results revealed that hospital management should be aware of both the positive and negative effects of caring for pediatric oncology patients on healthcare professionals' lives while it becomes extremely important to support and strengthen health professionals to reduce the negative impact for robust care strategies.

Keywords: Health professionals; pediatric oncology patients; qualitative research; care

In the hospital, doctors and nurses are the most involved in the care of pediatric oncology patients and are in constant contact with children and their parents.[1-3] As health professionals working in pediatric oncology space routinely face unpleasant scenarios like children's pain, suffering, and death, certain crucial decisions like making a proper diagnosis, treatment plan, improving the prognosis, or curtailing mortality rate create a high impact both in their professional as well as personal lives.[4-6]

Doctors and other health care professionals are particularly vulnerable to both physical and psychological negative mental health effects, which can occur as a result of tending to different children having varied standards of care.[5-7] These resultant mental changes can either be positive, or negative hampering an individual's professional and social relationships by simultaneously affecting the job satisfaction and motivation of health professionals, further leading to absenteeism at work and a decrease in the quality of care.[2,4,5,8,9] Beresford et al. study stated that health professionals working with patients suffering from cancer have higher stress levels that could negatively impact overall team collaboration.[4] Shanafelt et al. reported that physicians working with cancer patients had higher levels of stress and burnout, while another study by Galindo et al. observed that nurses working with cancer patients experienced enormous stress, which decreased their work efficiency.[2,10] A systematic review and meta-analysis that investigated the burnout syndrome in pediatric oncology nurses divulged that nearly 37% of them reported high emo-

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tional exhaustion levels, 16% disclosed high depersonalization levels, while 27% of nurses reported low personal fulfillment levels.[11] A study by Weintraub et al. reported that 82% of the pediatric hematology-oncology physicians in the U.S. experienced distress about their professional lives as well as a strong positive correlation was also demonstrated between compassion fatigue and burnout levels.[12]

This linear interrelationship between health care professionals' well-being and patient care suggests that apart from extending support to these providers, a prompt interprofessional collaboration and a healthy work environment can also be established with children and adolescents to identify issues at an early stage, thus providing emotional support, as well as comprehensive disease management.[4,13] The first reaction to a cancer diagnosis is often shock and numbness, which makes a patient more vulnerable; thus, in dire need of health professionals' help to coordinate patient care. Moreover, very few literary insights are available that discuss the impact in health professionals' lives by caring for pediatric oncology patients.[1,6,14] The present study investigated the complexities and the cumulative impact on healthcare professionals by caring for pediatric oncology patients. The precise details shared by health professionals' efforts for pediatric oncology patients in this study can help to identify specific needs for health professionals to provide them with appropriate institutional support, motivation, and stability. Therefore, this study was planned as a descriptive qualitative research study to determine the positive and negative impact of caring for pediatric oncology patients on health professionals' life as an increased understanding in this matter is extremely vital for providing effective, satisfying as well as judicious holistic care for such pediatric patients.

Study Questions

1. What is the positive impact of caring for pediatric oncology patients on health professionals' lives?

2. What is the negative impact of caring for pediatric oncology patients on health professionals' lives?

MATERIAL AND METHODS

STUDY DESIGN

A descriptive qualitative research design was chosen to determine the positive and negative impacts of caring for pediatric oncology patients on treating doctors and nurses.[15] The researchers followed the standard according to the Consolidated Criteria for Reporting Qualitative Research checklist to ensure accurate and precise qualitative research.[16]

STUDY SETTING

This study was conducted in the pediatric oncology clinic of a Trakya University Hospital serving 50 pediatric oncology patients yearly in Turkey from 15 July-15 September 2018. Since the study hospital was one of the main pediatric oncology referral centers in the Thrace region, as well as being the only university hospital with a pediatric oncology clinic in Northwest Turkey (17 beds), it was considered a suitable parameter for this study.

SELECTION AND RECRUITMENT OF PARTICIPANTS

Purposive sampling was used to reach potential participants and to provide rich data related to the study question. For qualitative analysis, the purposive sampling method is usually used to define and select the information-rich participants for the most effective usage of available options.[17]

As the maximum variation sampling method was used to gather important data from all the participants, age range, educational degree, and working years of all healthcare professionals (doctors and nurses) were included for assessment in this study.[18] While several inclusion criteria were; participant's average working time with pediatric oncology patients was 6 months; aged 18 or older; willingness to participate and knowing the Turkish language while according to the exclusion criteria, volunteers were not selected for this study. Although out of 21 healthcare professionals working in the pediatric oncology clinic, the study was completed with 19 healthcare professionals as two excluded healthcare professionals had less than a month of work experience.

ETHICAL CONSIDERATIONS

The study was approved by the Trakya University Ethical Committee of the Faculty of Medicine (Date: 17.09.2018, No: 2018/217) and institutional approval was obtained from the Department of Pediatric Oncology at where the study was conducted. This study was conducted in accordance with the Principles of

the Declaration of Helsinki. The purpose and approach of the research were explained to doctors and nurses before the study. Written consent and verbal consent were obtained from volunteer nurses and doctors. The informed consent form of the participants whose consent was obtained for participation in the study will be signed and a copy will be delivered to them. They were notified that if they do not wish to participate, they would be able to withdraw from the research without stating a reason.

DATA COLLECTION

Theoretical saturation, which was seen as the point indicating adequate data for a detailed analysis, determined the study's sample.[19] To reach theoretical saturation, researchers continuously evaluated data until all new data were identified and all concepts were well-formed to reach a precise theoretical saturation. Interviews were completed after reaching the data saturation level, while no new information or codes were identified.[20]

The researchers (X, Z) defined eligible doctors and nurses who meet the inclusion criteria. The researchers (X, Z) met with the participants for answering their questions regarding the study, and to asked for consent to participate. After consent, the participants were scheduled for the interview. The socio-demographic data of the participants comprising of age, gender, educational level, and working duration were obtained using the questionnaire form before the interviews, as is mentioned in Table 1.

The data of the study was collected through a semi-structured in-depth interview method. The individual in-depth interview was preferred because it is a suitable method to determine personal effects, to talk about sensitive issues, to conduct interviews without group influence, and to reveal complex issues.[21] The interviews were performed in the examination room at the pediatric oncology service, where the participants could express themselves comfortably, silent where the voice recording can be made, away from the stimuli that will distract the participant. All interviews were conducted by one researcher (X). During the interviews, no other researcher attended. The interviewer was a female and a researcher assistant at the pediatric nursing department, also she had experience in conducting qualitative research and had received training about qualitative research. There was no prior established relationship between the researcher (X) and the participants, all participants met the researcher and her purpose while being interviewed for the current study.

TABLE 1: Descriptive characteristics of participants.

Characteristics	Mean±SD	
Age	32.44±7.66	
Working years	9.44±7.90	
	n	**%**
Profession		
Nursing	9	47.4
Physician	10	52.6
Gender		
Female	15	78.9
Male	4	21.1
Educational level		
Bachelors	8	42.1
Masters	2	10.5
Doctorate	9	47.4

SD: Standard deviation.

Interviews were conducted with 19 health care professionals (ten doctors, nine nurses) for an average. The interview's duration ranging from 20 to 60 mins. Each participant was asked to explain their feelings and experiences regarding the impact of working with pediatric oncology patients. The semi-structured interview guide was not used in this study, but the researcher conducted the interview with semi-structured questions. Interview questions were included *''What is it like caring for children suffering from cancer?", "How does caring for pediatric oncology patients make an impact on you, as a professional?", "How caring for a child with cancer has changed you and your life."* All interviews were recorded. After observing the entire process, the researcher asked additional questions and explanations when it was deemed necessary and noted important points (e.g., the facial expression, tone of voice, gesture-mimic) to minimize the error frequency. Since all interviews were recorded, the researcher noted the interviewee's responses to prevent any issues with audio recordings, such as a low battery or speech volume issues.

RIGOR AND TRUSTWORTHINESS

The concepts of Yardley's sensitivity to context, rigor, transparency, and impact had been applied in this study.[22] Sensitivity to context was ensured by employing verbatim questions that provided the participants their voice and helped the readers to follow the interpretations back. The data analysis process was carried out by the first author (X) and was then reviewed by the other authors (Y, Z) to maintain a rigorous degree of repetition, while transparency was maintained by defining every research process phase that contributed to the overall study's credibility.

STATISTICAL ANALYSIS

After recording with a voice recorder, the interviews were then transcribed verbatim by the 2 researchers independently (X, Y), who also repeatedly listened to all the interviews while simultaneously checking their written version. Since interviews were uploaded to the MAXQDA program (2020 version) and were also written in this program by the researcher (X), qualitative analysis software MAXQDA was also employed for organizing codes and themes. Thematic analysis as an independent qualitative analytical technique was mainly defined as "A methodology for defining, evaluating and reporting themes within data" that was used for the data analysis.[23,24] To ensure the reliability of the analysis, the following procedures were carried out: (1) One researcher (X) independently created a code and subtheme list according to the concepts of the thematic analysis (X).[23] (2) Then, all three researchers (X, Y, Z) examined and modified both codes, sub-themes, and their related sentences for differences of definition until a consensus was achieved. (3) The researchers consolidated the associated codes into larger thematic groups and concluded that the data had achieved saturation. (4) The themes were confirmed by peer review of the research team comprising of physicians and nurses. (5) The final themes and questions were translated by a professional interpreter into English and finalized. (6) Moreover, all the participants were invited to comment on the study's result and the themes/subthemes to approve the results, but there were no comments from the participants.

RESULTS

PARTICIPANT CHARACTERISTICS

Nineteen participants (10 doctors, 9 nurses) were included in the study. The mean age of the participant was 32.44±7.66 (range: 24-52), the average working years was 9.44±7.90 (range: 1-28). Most of the participants were female (78.9%), and nearly half of them had a doctorate (47.4%) (Table 1).

MAIN FINDINGS

According to the word codes, various themes and sub-themes were created (Figure 1). The findings were shown in two domains; the first was the positive impact, and the second was the negative impact of caring for pediatric oncology patients on doctors and nurses. For both positive and negative impacts, three themes and subthemes emerged Table 2. For the positive impact domain' the themes are; "development of social relations", "strengthening of spirituality" and "psychological empowerment"; for the negative impact domain' the themes are; "changes in attitude and feelings", "changes in thoughts about the future" and "emergence of fears". Additionally, all domains' themes, subthemes, and related quotations are presented in Table 3 for clarity.

FIRST DOMAIN: POSITIVE IMPACT

The present study revealed that most of the participants expressed both negative and positive experiences about the impact of caring for pediatric oncology patients in their life and. Each of the healthcare professionals shared that caring for pediatric oncology patients had a positive impact on their lives and themselves. They stated that they gained significant experience and different perspectives by working with pediatric oncology patients. Based on data related to

FIGURE 1: Code clouds.

the positive impact of nurses and doctors, three main themes and 9 sub-themes were created (Table 3).

DEVELOPMENT OF SOCIAL RELATIONS

This theme included the "development of social relations" impact on all treating doctors and nurses while the sub-themes were "development of communication with children and their parents", "dissipated cultural prejudices" and "living in the present moment" (Table 3).

These results demonstrated that caring for pediatric oncology patients had an extremely positive impact on all participants' social lives while stating that they learned new communication techniques that facilitated their communication with children and their parents as proper communication with pediatric oncology patients was extremely difficult. The participants revealed that kids were very strong and behaved like real heroes while simultaneously reinforcing that when they saw struggling children, they also matured with them. Most of the participants also mentioned learning "living in the present moment" from children as they understood the value of life by facing children's deaths.

STRENGTHENING OF SPIRITUALITY

This theme contained the "strengthening of spirituality" impact on doctors and nurses while the sub-themes were "learning to overcome difficulties", "be merciful" and "learn to pray for others" (Table 3).

All participants reported that caring for pediatric oncology patients positively affected their spirituality, and they learned to become merciful as well as valiant toward hardships when they saw the struggle of both children and their parents for an uneventful recovery. Furthermore, most participants also implied that they also acquired peace and calmness of mind as they prayed for the kids' well-being, considering them as a family.

PSYCHOLOGICAL EMPOWERMENT

This theme included "psychological empowerment" impact on doctors and nurses. The sub-themes were "self-protection", "feeling strong", and "positive thinking" (Table 3).

The participants mentioned that caring for pediatric oncology patients affected their psychological mindsets in the least beneficial way as due to utter confusion between empathy and sympathy, they initially became

TABLE 2: Domains themes and sub-themes.

Domains	Themes	Subthemes
	Development of social relations	• Development of communication with children and their parents
		• Dissipated cultural prejudices
		• Living in the present moment
Positive impact	Strengthening of spirituality	• Learning to overcome difficulties
		• Be merciful
		• Learn to pray for others
	Psychological empowerment	• Self-protection
		• Feeling strong
		• Positive thinking
Negative impact	Changes in attitude and feelings	Failure to communicate
		Constantly thinking about death
		Converting empathy into sympathy
	Changes in thoughts about the future	Impatience
		Despair
		Questioning God/questioning life's purpose
	Emergence of fears	Obsession with cancer
		Afraid of having a child
		Emotional deprivation

TABLE 3: Themes, subthemes, and quotations (continue).

Domains	Themes	Subthemes	Quotations
Positive impact	Development of social relations	• Development of communication with children and their parent • Dissipated cultural prejudices • Living in the present moment	•…I realized that as my life was extremely valuable, I began to spend more time with my family (nurse, aged 42). • …Sometimes I remind myself that as life is too short to waste, I always have lots of fun with my children while traveling or enjoying new things (nurse, aged 35). • …I have learned to share people's sorrows and if I am unable to do that, I sometimes break down (doctor, aged 28). • …I soon overcame the innate cultural prejudice sand now I am in a happy frame of mind as my prejudices have been destroyed (nurse, aged 30). • …As my communication skills with children became better, I learned to be a warrior for someone else (doctor, aged 32). • …I learned that sharing both happiness and disheartenment teaches us the importance of taking care of others. Regardless of the race, religion, gender, socio-economic level of people (doctor, aged 36). •…Because of these pediatric oncology patients, I became a mature person and observed that I can also become self-sufficient and happy, like those children who also boost my morale in difficult scenarios (nurse, aged 35). •…The department that I feel like providing as a doctor is pediatric oncology as in this field, we do our best to treat pediatric oncology patients (doctor, aged 32). •…While I normally cannot bear children shouting or responding but now, I have started to love children. After I had my child, I joke with my daughter that I can even make children afflicted with cancer happy (nurse, aged 30).
	Strengthening of spirituality	• Learning to overcome difficulties • Be merciful • Learn to pray for others	•…I am amazed to see children trying to hold on to life regardless of their medical issues. Their unending warrior spirit taught me to hope for the best and be thankful (doctor, aged 33). •…I usually ask or pray for God for my family and myself. But when I started working in this clinic, I realized that my problems were insignificant in front of those brave kids. Now I pray for those kids, not for myself anymore (doctor, aged 28). •…The father of an adolescent came to me and asked if we could freeze my child's sperm? In a normal situation, he would have been more optimistic but now he was hoping that child might live for another ten years from now (doctor, aged 28). •…I'm normally not a fighter. Although most families know that their children will eventually die, still they do not give up. Likewise, I have started to fight too as if we all together can beat life (nurse, aged 35). •…Despite the persisting morphine, the child still had pain. We did everything but could not give relief to him from pain. I started crying out of despair but that boy told me please don't cry… He said that we should all be very strong, then only pain will go away… The boy was giving me hopefulness, but he was just a little boy (nurse, aged 28). • …As I am normally very impatient and finish my work immediately, but working here has changed me. For example, when I go to children for their intravenous cannulation, sometimes children say that I will get it done after some time. Although this disrupts my routine, I do my job a little later to avoid agitating them (nurse, aged 33). • …Sometimes I want to quit working here and think of migrating to other departments but when I empathize with these children and think that as they need me, I shouldn't leave them (nurse, aged 30).

continued…→

TABLE 3: Themes, subthemes, and quotations .

Domains	Themes	Subthemes	Quotations
Negative impact	Psychological empowerment	• Self-protection • Feeling strong • Positive thinking	•…I usually play with children after doing the treatment. But sometimes I have this thought that what if that patient died the next day I came to the clinic. This wears me off….and I think of protecting myself from this abysmal situation (nurse, aged 24). •…Normally I'm not very strong and cry immediately even if faced with a small problem, but these children taught me to be strong and to struggle for hope (nurse, aged 26). • …Children vomit constantly after chemotherapy as their mouth becomes sore, their hair changes, their whole body changes but they don't give up. They always think positively. They dance, draw pictures, and are a real miracle (doctor, aged 28).
	Changes in attitude and feelings	• Failure to communicate • Constantly thinking about death • Converting empathy into sympathy	•…Sometimes I avoid communicating with them and their families to avoid giving any bereavement counseling as I fail to communicate (doctor, aged 33). • …I thought about death very often… I even saw that I died while I was asleep (doctor, aged 33). • …I usually think the angel of death is always circling me (nurse, aged 34). •…As I get confused between empathy and sympathy, I internalize the events and feel depressed and emotionally exhausted (nurse, aged 24).
	Changes in thoughts about the future	• Impatience • Despair • Questioning God/questioning life's purpose	•…I always question God that why children get cancer? As they're so small and innocent, I don't want them to suffer so much (nurse, aged 30). •…I feel very helpless when I cannot save the children. I feel as if they died because of my negligence and as a result, I feel helpless and hopeless (doctor, aged 33). •…As family members insist on having everything right away. I try to fulfill all their wishes. That made me impatient in my private life as I want almost everything now (doctor, aged 32). •…As if the children are waiting for their deaths here. I always think about who is next in the order of death now. I feel a sense of anguish as they have the right to live their childhood, they don't have to experience this disease (doctor, aged 29). •…I can't help anything. So I feel useless, but then I also insist that maybe God wanted it to be like this (nurse, aged 30).
	Emergence of fears	• Obsession with cancer • Afraid of having a child • Emotional deprivation	•…I started to check everything I ingested or used for the presence of any carcinogens (doctor, aged 28). •…Whenever someone in my family is ill, I think if they have cancer. Even if doctors say that there is no cancer, sometimes I do not believe them as I constant fear for myself (nurse, aged 33). •…I see frequent diseased states in my dreams, sometimes I hallucinate when I am awake (nurse, aged 42). •…I am very afraid of having children since I started working in the pediatric oncology department or rather, I have a gnawing concern that if I have a child will be diagnosed with cancer (doctor, aged 36). •…Even when there is a slight sign of illness, I start to think if it is developing into cancer. As I have become obsessed with the implications of cancer, I'm going to a doctor right away (nurse, aged 35). •…I got a panic attack due to working with pediatric oncology patients. When I came to the oncology clinic, I started saying that I will also die just like these children (nurse, aged 24). •…All my life, I have constantly thought about my work and my patients. Now as my brain is tired, I feel myself in a vicious circle with my dark soul (nurse, aged 30).

psychologically disturbed but learned to protect themselves overtime by mastering self-protection from negative thoughts. Few of the participants also explained the reason for imbibing positive thinking that children had taught them so much about living life, about having hope and making the most out of any situation. Moreover, they also felt strong after observing many children making uneventful recovery from cancer.

NEGATIVE IMPACT

In this study, participants reported that caring for pediatric oncology patients had a negative impact on their lives in terms of varied changes in attitude, feelings, and thoughts about the future, or fear about the impending morbidity. Three main themes and nine sub-themes were created based on the received data related to the negative impact on the psychological lives of health care providers, as shown in Table 3.

CHANGES IN ATTITUDE AND FEELINGS

This theme included a negative impact on "changes in attitude and feelings" in doctors' and nurses' lives while incorporating sub-themes such as "failure to communicate with the patient family", "constantly thinking about death", and "converting empathy into sympathy" (Table 3).

More than half of the participants in this study mentioned that as they adapted empathy into sympathy they could master a restless mind from negative thoughts. Also, five participants stated that as they were trying to protect themselves emotionally, they were unable to communicate with the child's parents properly, while few of them disclosed that as they had witnessed some children's death, they could only visualize fatal complications like death.

CHANGES IN THOUGHTS ABOUT THE FUTURE

This theme included a negative impact on "changes in thoughts about the future' in doctors" and nurses' lives while the sub-themes were "impatience", "despair" and "questioning God/questioning life's purpose" (Table 3).

All the participants reported that after initiating the treatment, they had developed a bond with the affected child as well as the family. Moreover, sometimes due to unforeseen circumstances like an untimely child's death, the participants became miserable, regretfull and tried to seek consolation within the spiritual confines. Although, the participants expressed that after being witness to unfortunate deaths, they became desolate and pessimistic, while two participants felt a sense of utmost despair and gloom afterward and took a lot of time to compose themselves.

EMERGENCE OF FEARS

This theme included a negative impact on the "emergence of fears" in doctors' and nurses' life. At the same time, the sub-themes were "obsession about cancer", "afraid of having a child" and "emotional deprivation" (Table 3).

Participants observed that caring for pediatric oncology patients adversely affected their mental state resulting in more anxiety and panic as due to an inherent fear of developing cancer, they started being obsessed with everything they consumed. Many participants also experienced severe emotional deprivation as they started visualizing patients in their dreams, while four participants faced burnout due to emotional exhaustion.

DISCUSSION

Caring for pediatric oncology patients is a challenging and arduous task as it involves a multitude of issues that crop up while treating such patients, namely, revealing frequent bad news to patients, the inability to treat some patients, the need to control risky medications and procedures, as well as constant exposure to death and suffering of patients.[7,25,26] As working in the pediatric oncology clinic might be precarious and stressful for health professionals, most of the previous studies in the literature have only elucidated the negative impact of caring for such oncological patients on health professionals.[1,4,8,6,26,27] Our study is the first study to date that has attempted to correlate and determine both the positive as well as negative impact on healthcare professionals' lives by caring for pediatric oncology patients. Therefore, the present study aimed at gaining new literary insights by exploring through a systematic appraisal regarding the positive impact of caring for pediatric oncology patients on health professionals.

In our study, it was observed that caring for pediatric oncology patients positively affected health professionals' whether psychological, social, or spiritual. Additionally, it was also found that caring for such children enhanced the maturity level of all healthcare professionals in both emotional and spiritual spheres. Several studies had advocated the positive effects such as job satisfaction for health professionals, but our results revealed that caring for pediatric oncology patients empowered health professionals' overall perspectives related to social relations, spiritual and psychological. A study by Konukbay et al. which investigated the effects of working at the pediatric oncology unit on the personal and professional lives of nurses, reported that working with pediatric oncology patients increased nurses' work satisfaction and resultant outcomes.[28] An extensive literature review, unfortunately, did not yield any data pertaining to positive outcomes as all previous studies had only focused on investigating the negative effects of palliative care for pediatric oncology patients on the life of health professionals.[29-31] Moreover, identifying these negative as well as positive experiences might provide a broader understanding of the person-centered concept of care as well as provide a basis for integrated health services that pay special attention to the specific needs and preferences of such individuals provide a basis for the formulation of care theories to strengthen patient care.[32] In this context, it was observed that this study's findings might contribute to the information gap in the literature by identifying these negative as well as positive experiences to strengthen and formulate various patient care approaches.

In the present study, it was revealed that caring for pediatric oncology patients negatively impacts the life of doctors and nurses, especially the reemergence of fearful and uncertain demeanor among all professionals. In accordance with the existing literature, it was evident that the continuous apprehensive work environment faced by health care professionals' majorly affected their empathy skills by frequent alteration of innate thoughts toward fear of mortality resulting in emotional deprivation.[28,32] Contrary to the past literature, it was expressed that all healthcare workers were in such an uncertain cognitive state after some time that they were displaying exaggerated reactions toward getting cancer, while some feared having a child or relatives afflicted with cancer. Our study results are extremely important for understanding the negative experiences of health professionals during caring for pediatric oncology patients and is in accordance with other previous studies' observations that health care professionals are particularly vulnerable to negative mental health effects such as feeling inadequate, low work efficiency and motivation as well as increased levels of anxiety while working with such children and hence health professionals should be amply supported by various individual and group psychological interventions to make them feel productive and worthwhile as well as to improve their social and motivational attitudes.[4,7,29]

Pediatric oncology patients needing intensive care often face increasing difficulty in communicating with their clinicians, particularly as patients are cared for by providers from various disciplines.[33] The resultant communication issues between children, their families, and health professionals can cause distress, anxiety, hopelessness, and a decrease in quality of life.[30,33,34] In our study, while some health professionals revealed that caring for a child with cancer improved their communication skills with children that created a positive impact, while some also stated that due to inadequate communication abilities, they could not communicate with children and their families about unpleasant and difficult issues resulting in a negative impact.[30,34] In a study conducted by Odeniyi et al. it was disclosed that healthcare professionals at times had difficulties in communicating with pediatric oncology patients and their families due to their prolonged treatment as well as the course of clinical intensive care.[33] Our study results also mentioned that the health care professionals faced more communication problems with both children and their parents, which if not addressed at the right time, either individually or administratively, might lead some of the health professionals to quit pediatric oncology field.

Although working in a pediatric oncology clinic is a valuable job, it is extremely stressful, as was depicted in our study that the thoughts and feelings of doctors and nurses fluctuated both in positive and negative directions in terms of social, spiritual, and psychological aspects.[29] In a positive frame of mind, the

participants stated that they were patient, strong, merciful, hopeful, and thankful for everything they possessed, but during the negative emotional state, they felt hopeless, rebellious, stressed, tired, while facing a constant burnout over difficult decisions in their life. McConnell et al. performed a mixed-method review about health professionals' experiences in providing end-of-life care to children and reported that providing end-of-life care to such patients had a huge impact on their personal and professional lives, and they were frequently being plagued with traumatic memories and recurring thoughts about the suffering and death of the children.[30] If these things persist, eventually, it might lead to personal distress, increased anxiety as well as disengagement, and sooner or later, it might pose a serious threat to patient care quality.[31]

LIMITATIONS

The present study was limited by certain factors. As the study aimed to determine the positive and negative impact of caring for pediatric oncology patients on health professionals' life and was only conducted with doctors and nurses, hence the study results might be generalizable for a larger population of such health care professionals. Therefore, future studies should consider assessing the psychological burden and experiences of other healthcare professionals as well. Despite this potential limitation of the study being conducted at a single hospital, we achieved data saturation by providing numerous details about the experiences of health care professionals who work with pediatric oncology patients. Thirdly, this study is heterogeneous in terms of cumulative health professionals' work years in the pediatric oncology clinic, which might affect the study's results.

CONCLUSION

Our study results helped in gaining new knowledge about the broad consequences of the positive impact of caring for pediatric oncology patients on health professionals. Our study revealed that caring for pediatric oncology patients had a positive effect as well as a negative impact on health professionals' life as it increased health professionals' social relations, spiritual perspectives, and psychological empowerment. Additionally, it was also found that during the negative frame of mind, health professionals' empathy skills transformed to sympathy while their innate thoughts changed according to the future, and they experienced emotional deprivation and an unknown fear of developing cancer within themselves or their near and dear ones. It is hoped that addressing these experiences would lead to further improvement in the care that is provided to pediatric oncology patients. There is an unmet need for the overall administrative authorities in hospitals and other health care sectors to take cognizance of this fact and improve resources for empowering health professionals working in pediatric oncology departments. It is also mandatory to support and strengthen health professionals by conducting various psychological support programs, making service rotations, increasing the number of staff to reduce the working hours to alleviate the negative impact to some extent. Moreover, it is recommended to determine the needs of health professionals by conducting follow-up research using both qualitative and quantitative approaches to understand the impact of caring for pediatric oncology children on healthcare professionals over a larger period.

IMPLICATIONS FOR PRACTICE

Our study findings have direct implications for new age care practices that also take charge of issues beyond physical symptoms. Understanding the correlative impact of caring for pediatric oncology patients on health professionals' life is extremely essential to provide patient-centered care to ensure a safe and positive patient experience. Our study findings make it quite evident that hospital management should be acutely aware of both positive and negative impacts of caring for pediatric oncology patients on health professionals' lives to heighten awareness about the psychological burden and overall wellness of all health care professionals. The hospital management should implement numerous strategies to support doctors and nurses who work with pediatric oncology patients, especially to reduce negative impacts and alleviate any potential harm. Reducing negative impacts by short-term and long-term individualized wellness and mental health interventions will increase the quality of life, job satisfaction, and efficiency of health professionals, so the current pediatric oncology care standards can be enhanced for patients' overall well-being.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Remziye Semerci, Melahat Akgün Kostak, Tuba Eren;* ***Design:*** *Remziye Semerci, Melahat Akgün Kostak, Tuba Eren;* ***Control/Supervision:*** *Melahat Akgün Kostak, Tuba Eren;* ***Data Collection and/or Processing:*** *Remziye Semerci;* ***Analysis and/or Interpretation:*** *Remziye Semerci, Melahat Akgün Kostak, Tuba Eren;* ***Literature Review:*** *Remziye Semerci;* ***Writing the Article: Critical Review:*** *Remziye Semerci, Melahat Akgün Kostak, Tuba Eren.*

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