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Styles of Delivering News About a Child's Cancer and Parents' PTSD Symptoms

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ABSTRACT

Background: Receiving a child's cancer diagnosis is a highly traumatic experience for parents, often leading to significant psychological distress, including symptoms of Post-Traumatic Stress Disorder (PTSD). The way healthcare professionals deliver this news can affect the severity of parents' reactions. While some research examines communication style's impact on patients, few studies focus on its effects on parents.

Aims: This study explores the relationship between the communication style used by oncologists when delivering a child's cancer diagnosis and the subsequent levels of PTSD symptoms, mental resilience, and self-efficacy in parents.

Methods: One hundred twenty eight parents of children diagnosed with cancer participated. Data were collected using the Styles of Communicating Questionnaire (SCQ), PTSD Checklist for DSM-V (PCL-5), the Connor-Davidson Resilience Scale (CD-RISK), and the General Self-Efficacy Scale. Correlations and hierarchical multiple regressions were performed to examine the relationship between communication style and psychological outcomes.

Results: Parents who perceived the oncologist's communication style as more activating (clear, structured, and action-oriented) reported significantly lower levels of PTSD symptoms and higher levels of resilience and self-efficacy. The perception of empathy played a crucial role, particularly when physicians balanced emotional and cognitive empathy. This balance was linked to better psychological outcomes in parents.

Conclusions: The study highlights the critical role of communication style in mitigating the psychological impact of a child's cancer diagnosis on parents. Training healthcare providers to balance cognitive and emotional empathy in communication may reduce PTSD symptoms and enhance resilience and self-efficacy in parents, ultimately improving their psychological well-being during such a challenging time.

1 | Introduction

Being informed about one's child's cancer diagnosis can be one of the most difficult situations parents face in their parental lives. Indeed, several studies have examined the short and long-term psychological consequences of receiving such a diagnosis for parents. Following such a potential traumatic event, people may develop the acute stress reaction (ASR) within the first 48 h (e.g., confusion, rapid heartbeat, dissociation). Within the following month, some may develop acute stress disorder (ASD), which, if untreated, can lead to PTSD starting a month after the event. PTSD is characterized by four major symptom

clusters, including repeated intrusions and flashbacks, avoidance, arousal, and negative emotions or cognitions. In many cases, PTSD becomes chronic with poor prognosis if untreated. In the present study, we focus on PTSD symptoms (PTSS) rather than the full PTSD syndrome.

Looking at ASD symptoms, a study of 138 children with newly diagnosed cancer showed that 51% of mothers and 40% of fathers met the clinical criteria for ASD [1]. In a study of 195 families, 41% of mothers and 30% of fathers reported elevated PTSS [2]. These findings confirm that mothers are at greater risk of PTSD following their child's cancer diagnosis. In a longitudinal study, 240 parents were evaluated a week, 2 and 4 months after their child was diagnosed with cancer. ASD a week later was found in 33% of parents, while PTSS was found in 28% at **2 months** and 22% at **4 months** post diagnosis. Finally, ASD was a risk factor for PTSD later [3]. Moreover, in a recent study, 33% of parents of children newly diagnosed with cancer reported significant PTSS during the first year after diagnosis [4]. Another study found that 21% of fathers and 35% of mothers exhibited clinical PTSD symptoms one to 5 years after their child's cancer diagnosis [5].

The psychological reactions of parents to such a diagnosis could be a function of several factors including their own PTSD risk factors (e.g., past traumatic experiences; excessive sympathetic responses), the severity of the child's condition, the time since cancer diagnosis and the manner in which this diagnosis was conveyed to parents. Indeed, one study found that parents of more recently diagnosed children had higher PTSD symptoms than parents of children with more distant diagnoses [6]. Very little empirical research has examined effects of the style of delivering such a diagnosis to parents' psychological reactions. One study found that only 27% of residents felt capable of breaking bad news to parents while 90% thought this is a very crucial skill to learn [7]. While skills are crucial, experience is equally important. In a study of 143 residents, at least a half of them did not observe and participate in giving bad news to children [8]. Following the Bristol Inquiry on this topic, it was recommended that breaking the bad news of a child's severe illness to parents should be done with clarity, in privacy and with a multidisciplinary team [9].

A central issue of high relevance to this topic is physicians' empathy, which is defined as the ability to comprehend and relate to another person's mental or physical state and needs, and to convey this comprehension [10]. Many articles have been written about how to provide bad news with an empathic approach, however, this domain has received little empirical evidence. One of the most known and taught approaches is the SPIKES method, which considered the clinical setting, perceptions and empathy [11]. Furthermore, the relationship between physicians' empathy and patients' actual health outcomes is more complex than often expected. In a surprising study, patients with lung cancer evaluated their oncologist's empathy levels and their survival was examined. In the full sample, doctors' empathy did not predict patients' survival. However, among patients receiving bad news, those with a highly empathic doctor were at higher risk of death than those with a moderately empathic doctor. This did not occur among patients not receiving bad news [12]. A deeper inspection of the empathy scale revealed that this unexpected finding stemmed from the emotional empathy items of the questionnaire (e.g., showing compassion), while the more activating empathy items (e.g., making a plan of action) were unrelated to risk of death [12]. This is all related to an emerging new method of providing people with psychological first aid called the Six Cs method. In this method, people are taught Instead of emotional expression and receiving emotional empathy to speak to trauma-survivors in Cognitive Communication, to view the Chronological order of events, to be Committed to helping them and to provide them with Challenge and Control. Initial evidences shows that the Six Cs method was related to less anxiety [13].

However, the analysis of the style in which oncologists break bad news to parents about their child's cancer, and its impact on parents' mental health, has not been investigated, to the best of our knowledge. The purpose of this study was to examine the relationship between the style in which oncologists delivered bad news about a child's cancer and parents' PTSS. Using the SIX Cs framework and the studies mentioned above, we focused on three elements of this style of delivering such bad news, using a scale developed specifically for this study: 1. Level of physician empathy; 2. Clarity, comprehension and future planning when breaking bad news, 3. The setting in which the bad news was provided (i.e., private space vs. public). Based on the literature cited above, it was hypothesized that delivering bad news in a more activating, private and empathic manner will result in lower levels of PTSS in parents of children with cancer than when delivering this news otherwise. Finally, given the important role of mental resilience in PTSD [14], we also assessed mental resilience and self-efficacy, to validate the new scale of delivery style and to gain insight into the correlates of delivery style.

2 | Method

Participants: All participants in the study signed an informed consent form to participate in the research. Only people who identified themselves as parents of a child with cancer who was diagnosed, treated or in the control phase up to 5 years after the end of treatment, participated in the study. The final study included $n = 128$ parents of children with cancer, of whom 113 were women (88.3%) and 15 were men (11.7%). These participants were the parents of 60 girls (46.9%) and 68 boys (53.1%) with cancer in different stages of cancer and the treatment. Concerning treatment, 80 children were only monitored (62.5%), 18 children were at the end of treatment (14.1%) and 30 children were receiving treatment (23.4%). Children's age ranged from birth to 18 and the average age of the sick children was 8.92 years. Marital status of the parents: 110 married (85.9%), 6 divorced (4.7%), 4 single (3.1%), 1 widowed (0.8%) and 7 were in an unmarried relationship (5.5%).

2.1 | Measures

Background questionnaire: This questionnaire was built for the purpose of this study and included questions regarding the following personal details: Age and gender of the sick child, age

and gender of the parent, time since diagnosis, the treatment phase, number of children in the family, the child's birth order, parental marital status (single, divorced, married, living with an unmarried partner), employment status (salaried, student, self-employed, out of work), and education (primary, high school, academic).

PTSD symptoms were assessed using the PTSD checklist for DSM-V, PCL-5 [15]. This scale includes 20 statements on a five-point Likert scale concerning how often parents felt that each statement occurred in the last month. The answer options were 0-"not at all", 1-"to a little extent", 2-"moderately", 3-"to a great extent" and 4-"extremely". PTSS scores were calculated by summing the responses to all 20 items. The internal reliability of this scale in the present study was high (Cronbach's alpha = 0.92).

Mental resilience data was assessed using the Connor-Davidson CD-RISK resilience scale [16]. This questionnaire includes 10 items that refer to the perception of self-efficacy in relation to events experienced in the last month. Each person was asked to indicate the number that most accurately reflects the degree of consent an item is true about him or herself on a Likert scale ranging from 0 (not true at all) to 4 (true almost all the time). In this study the internal reliability of the questionnaire was adequate (Cronbach's alpha = 0.80).

Self-efficacy was assessed using the 10 items General Self-efficacy Scale [17]. That questionnaire evaluates the perception of self-efficacy, as well as coping and adaptation abilities, with reference to day-to-day conduct and coping with stressful events. Internal reliability of the questionnaire in this study was high (Cronbach's alpha = 0.86).

Styles of Communicating Questionnaire (SCQ): This questionnaire was developed specifically for the present study. It examines the parent's experience regarding his or her perceptions of the style of delivering the news about their child's cancer. The questionnaire includes seven items, and the parent rates each one on a scale of 1 (not at all) to 6 (very much). The questionnaire was evaluated for comprehension by 8 parents (who did not take part in the present study). The internal reliability of the SCQ in this study was high (Cronbach's alpha = 0.907). The SCQ items are as follows:

1. Receiving the news about my child's illness was held in a quiet and private place.
2. In your opinion, did the attending physician convey the information in clear words?
3. In your opinion, did the physician make sure to clarify the concepts mentioned in the conversation?
4. In your opinion, did the attending physician make sure you understood what was said?
5. In your opinion, was the attending physician empathetic and sensitive when breaking the news about your child's illness?
6. In your opinion, did the attending physician present to you the timetables for the continuation of the therapeutic plan?
7. Did you receive precise instructions to be carried out at the end of the conversation.

Questions 2, 3, 4, 6, 7 measure the pro-activation style of delivering the bad news.

Question 1 refers to the physical setting in which the bad news was delivered. Question 5 refers to the parents' perceived empathy that the doctor used.

2.2 | Procedure

The questionnaires were sent using the snowball sampling method through social networks—Facebook, WhatsApp, and e-mail, with a request to forward to other acquaintances. The study was approved by the ethics committee of Tel Hai Academic College, School of Social Work approval reference: TLSW-08-01-19.

2.3 | Statistical Analysis

We first report the descriptive statistics for the background and main study variables. We then performed correlation tests between background and PTSS levels and between SCQ scores with self-efficacy, resilience and PTSS. Finally, we performed a hierarchical regression, where we examined the additional contribution of the SCQ level of activating announcement with PTSS scores, beyond the contribution of two background variables.

3 | Result

As seen in Table 1, most of the sample included mothers with an academic education, employed and married. The gender distribution of the children with cancer was approximately 50%.

Table 2 depicts the means and standard deviations (SD) of the main continuous study variables. The mean age of the children was just below 9 and the time since diagnosis to study entry was approximately 2.5 years.

Examining the relationship between each background variable and parents' PTSD symptoms revealed no associations between parents' gender, child's gender, parent's occupational status, parents' marital status, number of children at home, year of diagnosis, child's age and child's treatment phase with parental PTSS (all ps < 0.05). In addition, there was no parental gender difference in the evaluation of receiving the announcement in an activating manner ($p > 0.05$). Parental education tended to be significantly and negatively related to PTSS ($r = -0.17, p = 0.065$).

To validate the assessment of parents' recall of the extent of receiving an activating announcement, we examined its correlation with parents' levels of resilience and self-efficacy as demonstrated in Table 3.

Indeed, extent of receiving an activating announcement was positively and significantly related with parents' resilience (r = 0.37, p < 0.001) and their self-efficacy (r = 0.25, p < 0.01). These results support the construct validity of the SCQ scale.

Examining the main research question revealed that there was a significant and negative correlation between the extent to which parents recalled being announced about their child's cancer in an activating manner and their PTSD level **(r = −0.26, p < 0.01**). This negative correlation remained statistically significant also after statistically controlling for parents' education and the year the announcement was given (partial $r = -0.23$, $p < 0.05$).

Finally, in a hierarchical multiple regression, parents' recall of extent of being diagnosed about their child's cancer in an activating manner accounted for an additional and significant 5.4% of the variance in their PTSD symptoms, after the contribution of their education and year of the child's diagnosis **(F-change [1,105] = 6.13, p < 0.05).** This regression is depicted in Table 4.

Finally, we examined which staff communication styles contributed most strongly to parents' perceived empathy from the staff members. In a hierarchical linear multiple regression, the communication factors accounted for an additional and significant 48.6% of the variance in staff empathy, after controlling for background variables (child and parent gender, child age and parent's education), F (4,101) = 26.8, $p < 0.001$. In the final multiple regression equation, only the staff verification of child's comprehension and staff's planning of the future treatment schedule were significant and independent correlates of perceived staff empathy.

TABLE 1 | Sample characteristics—Categorical variables.

Variable	Percentage
Parent gender	
Female	88.3
Male	11.7
Child gender	
Girl	46.9
Boy	53.1
Personal status	
Single	3.1
Married	85.9
Divorced	4.7
Widow	0.8
Has partner	5.5
Education	
Primary	3.9
Secondary	30.5
Academic	65.6
Occupation	
Employee	74.2
Independent	10.9
Student	2.3
Uunemployed	12.5

TABLE 2 | Means and standard deviations of the continuous main study variables.

Variable	Mean	SD
Age of child	8.92	5.41
Number of children	2.91	0.81
Time since diagnosis	2.58	1.57
Self-efficacy	32.94	5.32
Resilience	33.26	6.12
Activating announcement	18.22	5.03
PTSD symptoms	24.70	15.08

Abbreviation: PTSD = post-traumatic stress disorder.

4 | Discussion

This study provides valuable insights into the relationship between the communication style employed by oncologists when delivering a child's cancer diagnosis and the psychological outcomes experienced by parents. Specifically, it underscores the importance of an activating communication style—characterized by clarity, structured information, future planning, and a balanced approach to empathy—in mitigating parents' PTSD symptoms and enhancing their resilience and self-efficacy.

The findings indicate that parents who perceived the communication style as more activating, involving clear guidance and actionable steps, reported lower levels of PTSD symptoms and higher levels of resilience. These results are consistent with previous studies showing that structured communication during

TABLE 4 | Results of a hierarchical multiple regression, regressing PTSD symptoms on background variables and parents' recall of extent of being announced of their child's diagnosis in an activating manner.

Predictor	B	SE	Sig.	R^2-block
Parent education	−3.52	2.50	0.16	
Year of diagnosis	0.46	0.93	0.62	0.02
Activating announcement	−0.71	0.29	0.01	0.05

Abbreviations: PTSD = post-traumatic stress disorder; Sig. = statistical significance.

TABLE 3 | Summary of the correlation findings.

Variable	Resilience	Self-efficacy	PTSD
Receiving an activating announcement	0.37***	0.25**	.−26**

Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

traumatic events helps individuals manage stress by reducing uncertainty and fostering a sense of control [18, 19]. Cognitive communication, which focuses on providing clear, concrete information and future planning, has been demonstrated to promote active coping strategies, as it facilitates better comprehension and task-oriented responses to stressors [10].

Empathy also emerged as a critical factor in this study. However, the findings suggest that balancing emotional empathy with cognitive empathy is essential. Emotional empathy, which involves expressing compassion and understanding, can sometimes intensify distress if it is not accompanied by clear, actionable information [12]. In contrast, cognitive empathy, which integrates understanding with practical guidance, has been found to be more effective in reducing anxiety and improving psychological outcomes [20, 21]. The present study suggests that a balanced approach—one that combines emotional sensitivity with cognitive clarity—optimally supports parents in coping with the trauma of their child's diagnosis.

Two key components of communication—clarity in conveying information and the explanation of medical concepts—were identified as significant predictors of reduced PTSD symptoms. These findings resonate with broader literature on effective communication in medical settings, which emphasizes the importance of clear communication in reducing confusion and empowering patients and their families [2]. By enhancing understanding and providing a structured framework for navigating the situation, clear communication can mitigate psychological distress, allowing parents to engage more effectively with their child's treatment plan.

From a neurobiological perspective, the effectiveness of cognitive communication may be explained by its role in engaging the prefrontal cortex, which is responsible for executive functions such as decision-making and emotional regulation. Taylor et al. [22] demonstrated that cognitive communication can help regulate the amygdala's emotional response, thereby reducing stress and enabling individuals to process difficult information more effectively. This neurobiological mechanism lends further support to the study's findings, suggesting that clear, task-oriented communication may reduce the psychological burden on parents by helping them manage their emotional responses and make informed decisions during a highly stressful time.

4.1 | Practical Implications

The findings of this study hold significant implications for clinical practice. Healthcare providers should be trained in communication strategies that emphasize both cognitive empathy and the delivery of clear, structured information. Integrating these elements into communication protocols can help ensure that parents receive the support they need while navigating their child's cancer diagnosis. Training programs, such as those based on the SPIKES protocol, which combines empathy with clarity in delivering bad news, may provide a useful framework for enhancing communication skills in healthcare settings [11].

Moreover, this study highlights the importance of considering the timing of communication. Parents' psychological responses may vary depending on how much time has passed since the diagnosis, suggesting that communication strategies may need to evolve as parents move through different stages of their child's treatment. Future research could further investigate how communication styles should adapt to changing parental needs over time, offering tailored support that accounts for the dynamic nature of coping with a child's illness.

5 | Limitations

Despite its contributions, this study has several limitations that must be acknowledged. First, the cross-sectional design limits the ability to establish causal relationships between communication style and psychological outcomes. Future longitudinal studies would be valuable in tracking changes over time and better understanding the causal pathways involved. Second, the reliance on self-reported data may introduce response bias, as participants' recollections of communication styles could be influenced by their emotional state. Incorporating objective measures, such as observational assessments of communication styles, could enhance the validity of future research.

Additionally, the sample primarily consisted of mothers (88.3%), which may limit the generalizability of the findings to fathers or other caregivers. However, gender was unrelated to both PTSS and to the perception of receiving the announcement in an activating manner. Future studies should aim to include a more diverse sample to capture a wider range of experiences. A related issue is the heterogeneity of the cancer phases children were in. However, this variable was unrelated to PTSS in the present study. Future studies may want to recruit a more homogeneous sample in relation to children's cancer severity and treatment phase. Furthermore, the study focused on parents of children with cancer; exploring whether these findings generalize to parents facing other serious medical diagnoses would provide a more comprehensive understanding of the impact of communication styles in healthcare. Finally, the SCQ was specifically developed for the present study and more research is needed to validate and standardize it. Future studies may want to have experts (e.g., psycho-oncologists) judge the relevance of each SCQ item to this construct, to have information about the scale's content validity. Given the known correlations between parental and children's mental health, future studies may want to examine the relations between parents' recall of the physicians' communication style with the child's PTSS and their cancer prognosis.

6 | Conclusion

In conclusion, this study emphasizes the critical role of an activating and balanced communication style in reducing the psychological impact of a child's cancer diagnosis on parents. Training healthcare providers to integrate both cognitive and emotional empathy with clear, actionable communication may not only reduce PTSD symptoms but also enhance parents'

resilience and self-efficacy. Ultimately, by improving communication strategies, healthcare professionals can better support parents during one of the most challenging experiences of their lives, fostering improved psychological well-being and more effective engagement with their child's care.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author, Moshe U. Farchi, upon reasonable request.

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