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Psychosocial Impact of Cancer on Omani Children and Adolescents: A Qualitative Study of Parents' Perspectives

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ABSTRACT

Background: Cancer diagnosis and treatment poses considerable psychosocial and physical challenges for children and adolescents. This study explores the experiences of Omani parents regarding the impact of cancer on their children and adolescents. Methods: Semi-structured individual interviews were conducted between December 2022 and June 2023 with parents of children and adolescents diagnosed with cancer, recruited from two major oncology centers in Oman. Data were analyzed using the framework analysis approach. Results: Five main themes emerged: three related to the psychosocial impact of cancer on children and two concerning the availability of supportive care and coping resources. Parents reported that cancer affected their children emotionally (e.g., aggression, emotional suppression, fear, worry, jealousy/inferiority, and clinginess), physically (e.g., fluctuations in energy and appetite, persistent pain, body image concerns, and low immunity), and socially (e.g., bullying, loss of normal routines and daily activities, and self-imposed isolation). The two coping-related themes highlighted the role of healthcare professionals, including oncologists and nurses, and the support provided by extended family members, school communities, and volunteers from non-governmental organizations. Conclusions: Cancer significantly impacts the emotional, physical, and social well-being of children and adolescents. However, various supportive networks, including healthcare teams, volunteers, family, friends, and school communities, are instrumental in helping them to adapt to their illness. There is a need for specialized psychological services to address these challenges and provide comprehensive care for children and adolescents with cancer in Oman.

Keywords: Parents; Children; Adolescents; Cancer; Impact; Qualitative Research; Oman.

INTRODUCTION

Childhood and adolescent cancer is relatively rare but poses a significant global burden (Bhakta et al., 2019; Johnston et al., 2021). In 2019, it was the sixth leading contributor to the total global cancer burden (Force et al., 2017). Each year, approximately 429,900 individuals under 19 years of age are diagnosed with cancer worldwide, with age-standardized incidence rates of 141 and 185 cases per million person-years for children and adolescents, respectively (Steliarova-Foucher et al., 2017; Lam et al., 2019). Alarmingly, 100,000 children die from cancer annually, with 90% of these deaths occurring in low- and middle-income countries where the five-year survival rate is only 30%, compared to over 80% in high-income countries due to advancements in cancer treatment (Force et al., 2017; Lam et al., 2019; The American Cancer Society, 2025). In Arab countries, more than 18,000 children under 15 years of age are diagnosed with cancer each year, with incidence rates ranging from 7.5 to 12.8 cases per 100,000 children. Approximately 7,000 children die annually, resulting in a mortality-to-incidence ratio of 0.38; however, these figures may vary due to differences in cancer registration accuracy (Zandaki and Sultan, 2022).

A cancer diagnosis is a deeply traumatic experience for both patients and their families, affecting multiple aspects of their lives (Kahriman, et al., 2020; Tan et al., 2020). Beyond its physical toll, cancer is presents various physical, psychological, psychosocial, and economic challenges (Carlsson et al., 2019; Kahriman, Demirbag and Kobya Bulut, 2020; Alghamdi et al., 2023). Both the diagnosis and treatment process can lead to considerable emotional distress, frequently manifesting as anxiety, depression, and post-traumatic stress disorder (PTSD) (Collins et al., 2002; Sohn et al., 2017; Pishkuhi et al., 2018; Akimana et al., 2019; Al-dhawyani et al., 2022). A systematic review and meta-analysis reported pooled prevalence rates of anxiety (13.92%), depression (20.43%), and PTSD (20.90%) among children and adolescents with cancer under 19 years old (Al-Saadi et al., 2022). In Oman, these prevalence rates are notably higher, with 43.5% of children and adolescents aged 6 to 18 years with cancer experiencing anxiety, 56.5% experiencing depression, and 32.6% experiencing PTSD within the first three months of diagnosis (Al-Saadi et al., 2024).

Coping with a life-threatening illness is extremely challenging for both children and their families. It is therefore recommended that pediatric oncology departments offer psychosocial services that address the needs of patients throughout their cancer journey (Wiener et al., 2015). In Oman, cancer survival rates among children and adolescents have improved due to significant advancements in healthcare delivery and treatment. However, the emotional and psychological impact of a cancer diagnosis remains substantial and requires greater attention. Recognizing these effects is essential for assessing patients' well-being and ensuring comprehensive oncological care (Al-Saadi et al., 2022). To our knowledge, this is the first phenomenological qualitative study conducted in Oman to explore the psychosocial experiences of children and adolescents diagnosed with cancer from the perspectives of their parents.

METHODS

Study Design and Setting

This phenomenological qualitative study was conducted between December 2022 and June 2023, focusing on Omani parents of children and adolescents diagnosed with cancer. Participants were recruited from the Pediatric Hematology Unit at Sultan Qaboos University Hospital 'SQUH' and the National Oncology Centre 'NOC' of the Royal Hospital in Muscat, Oman. These tertiary cancer referral facilities provide integrated inpatient, outpatient, and daycare services for pediatric patients with hematologic cancers and solid tumors. Adolescent oncology is also evolving as a distinct subspecialty, supported by dedicated consultants and specialized teams.

Population Recruitment

This study builds on a previously published study (Al-Saadi et al., 2024). Purposive sampling with maximum variation was employed to obtain information-rich data while ensuring diversity in participants' ages, marital statuses, education levels, health conditions, employment statuses, family incomes, and number of children (Patton, 2015). Additionally, variations in the children's age, gender, time since diagnosis, and cancer type were considered.

Parents of Omani children or adolescents aged 6 to 18 years diagnosed with cancer in the previous study (Al-Saadi et al., 2024) were selected for this research. Those accompanying their children during hospital admissions or outpatient visits were approached, informed about the study, and invited to participate.

Data Collection

Data collection was conducted using a semi-structured interview guide developed based on the study objectives and insights from a literature review. This approach allowed for an in-depth exploration of participants' experiences, enabling the interviewer to follow up on unexpected topics, clarify ambiguous responses, and probe for further details, enhancing the quality and reliability of the data collected (Gill et al., 2008; McGrath et al., 2019). The interview guide comprised eight open-ended questions, with probing techniques employed as necessary. Demographic information was collected at the end of each interview. The interviews were participant-led, allowing the researcher to explore topics introduced by the participants, facilitating a deeper expression of their experiences and resulting in richer data (Shaheen and Pradhan, 2019).

All interviews were conducted in Arabic and audio-recorded with the participants' permission to minimize errors and disruptions. The duration ranged from 30 to 75 minutes, with an average of 45 minutes. Participants were assured that their data would remain confidential and anonymized and that the researchers would uphold principles of integrity and honesty throughout the research process, ensuring that personal information was not disclosed. Data collection continued until saturation was reached, meaning no new themes emerged during the initial analysis (Dawson, 2019). At this point, participant recruitment ceased, as the data from the 20 selected participants were deemed sufficient.

Data Analysis

Audio recordings of the interviews were translated into English and transcribed verbatim by a bilingual Omani translator. Data analysis followed a framework analysis approach, initially applied to the most informative transcripts. Colaizzi's (1978) phenomenological methodology was then used to analyze the remaining transcripts (Phillips-Pula et al., 2011). The analysis process comprised seven steps. First, the interviews were transcribed and thoroughly reviewed. Significant statements relevant to the study's objectives were then extracted. These statements were analyzed, grouped into themes, and identified across all participants. The themes were then integrated into a comprehensive description of the parents' experiences through coding, which was then refined into concise statements. Finally, two researchers independently validated the analysis, addressing any discrepancies through discussion. The findings were reviewed with the research team to reach a consensus on the final themes and sub-themes. NVivo-14 software (Lumivero, Denver, CO) was used for data coding and management.

Ethical Considerations

Ethical approval for participant recruitment was obtained from the Scientific Research Committee of the Royal Hospital (SRC#92/2021) and the Medical Research and Ethics Committee of the College of Medicine and Health Sciences at Sultan Qaboos University (MREC #2605).

RESULT

Participants' Demographic Characteristics

A total of 20 participants were included in this study, with an average age of 37.9 years (range: 30–49 years). Most were mothers (n = 16; 80%) and were recruited from the NOC (n = 17; 85%). The majority were married (n = 19; 95%) and had four or fewer children (n = 14; 70%). Most participants did not have chronic diseases (n = 17; 85%). Half of the parents were employed, and the majority had at least a high school education (n = 17; 85%). A monthly family income of less than 600 OMR (1,560 US$) was reported by 55% of participants. The average age of the children and adolescents diagnosed with cancer was 9.6 years (range: 6–16 years), with more male (n = 11; 55%) than female (n = 9; 45%) children. Hematological malignancies, including leukemia and lymphoma, were more common (n = 12; 60%) than solid tumors (n = 8; 40%). At the time of the interviews, most parents had learned of their child's cancer diagnosis within the past six months [Table 1].

Table 1: Demographic characteristics of participants (N = 20).

Characteristics	**n (%)**
Age in years, average (range)	37.9 (30–49)
Child's age in years, average (range)	9.6 (6–16)
Gender	
Female	9 (45)
Male	11 (55)
Relation to child	
Mother	16 (80)
Father	4 (20)
Marital status	
Married	19 (95)
Widowed	1 (5)
Chronic disease status	
Yes	3 (15)
No	17 (85)
Education level	

None	1 (5)
Primary school	2 (10)
General diploma	9 (45)
University degree	8 (40)
Number of children in family	
≤4	14 (70)
>4	7 (30)
Employment status	
Employed	10 (50)
Unemployed	10 (50)
Child's diagnosis	
Hematologic malignancies (e.g., leukemia and lymphoma)	12 (60)
Solid tumors (e.g., osteosarcoma, choriocarcinoma, rhabdomyosarcoma, neuroblastoma, LCH, and brain tumors)	8 (40)
Time since child's diagnosis in months	
<6	13 (65)
6–12	2 (10)
>12	5 (25)
Monthly family income in OMR	
<300	3 (15)
300–600	8 (40)
600–1,000	6 (30)
>1,000	3 (15)

LCH: Langerhans Cell Histiocytosis, 1 OMR (Omani Riyal) = 2.6 USD.

Main Themes

Five key themes emerged from the interviews [Table 2]. Three themes focused on the psychosocial impacts of cancer on children, while two highlighted the availability of supportive care and services to help parents cope. Parents identified emotional impacts such as aggression, emotional suppression, fear, worry, jealousy, and clinginess. Physical impacts included changes in energy levels and appetite, pain, body image issues, and low immunity. Social impacts involved experiences of bullying, disrupted routines, and isolation. The two coping-related themes emphasized the role of healthcare professionals (HCPs), particularly oncologists and nurses, in providing care, guidance, and reassurance. Social support from extended family, schools, friends, and non-governmental volunteers was also vital, offering both emotional and practical assistance to help families manage challenges.

Table 2: Main themes and subthemes emerging from interviews with the participants (N = 20).

Main themes	Sub-themes
Impact of cancer on the child	**1. Emotional and mental impact** o Aggression o Hiding emotions o Seeking information o Fear and worry o Jealousy or inferiority o Clinginess
	2. Physical impact o Changes in energy and appetite o Continuous pain o Body image o Low immunity
	3. Social impact o Bullying o Loss of previous routine o Social isolation
Medical and social support to cope with the impact of cancer	**4. Role of healthcare professionals** o Nurses o Oncologists
	5. Social support o Parents o Extended family members

	○ School communities ○ Volunteers of non-governmental organizations

Impact of Cancer on the Child

Parents identified several emotional/mental, physical, and social impacts of cancer on their children. These included emotional challenges such as anxiety and aggression, physical changes like hair loss, and social difficulties stemming from isolation and bullying.

Theme 1: Emotional and Mental Impact

Parents observed various emotional and mental changes in their children following the cancer diagnosis, including increased aggression, heightened anxiety, and stronger attachment to parents. Additionally, children were noted to hide their emotions in an attempt to protect their parents, while simultaneously expressing fear and aversion toward hospital treatments. Parents also described feelings of jealousy and inferiority in their children, often stemming from physical changes caused by cancer or its treatment. Furthermore, several parents mentioned that their children actively sought information about their condition, reflecting their confusion and need for reassurance.

In some cases, parents reported an increase in aggressive behavior, not previously observed, directed at both themselves and their siblings. Several parents attributed this irritability and hostility to the side-effects of prescribed medications. One mother of an 8-year-old girl diagnosed with a brain tumor shared:

> “My daughter is too nervous, and during this period, she has become way more than before, as she feels nervous about the simplest things, and she has become a person who shouts and yells about almost anything. Her nervousness is not everywhere; it is only in the hospital. She does nothing but feel angry at the timing of medications.”

Several parents noted that their children, particularly adolescents or those on the cusp of puberty, attempted to conceal their emotions and distress. One mother described her daughter’s efforts to hide her feelings by refusing to speak and preferring to cry in private. The mother said:

> “I cannot decide or know her feelings. She is hiding everything inside herself, even if she is a kid. She refused to talk, but I could see that she always wanted to cry. She preferred to sleep all day. When she woke up, I noticed her tears, and I asked her what was wrong, and she said nothing. She was covering herself with the blanket, crying then. She is a child and was in tears. She held back her tears. She only wants to cry. It is her way of expressing herself.”

Many parents believed that their children’s efforts to conceal their true emotions were driven by a desire to protect their parents from worry and distress, as well as to portray themselves as strong and patient.

In some instances, parents reported choosing not to disclose the cancer diagnosis to their sick children in an effort to protect them from distress. However, their children often asked numerous questions, often seeking to understand the reasons for hospitalization, the nature of their illness, the side-effects of treatment, and concerns for the future. A mother expressed the following:

> “She always thinks and asks me why this is and why that is. She asks why the inflammation causes all of this, and I tell her that this is a disease we’re giving her strong medication to overcome. She frequently asks, ‘Why can’t I go out to play with the other kids?’ I try to convince her. She asked, ‘Mom, why am I always in the hospital?’ I told her that it was only a matter of time, and it would pass. Allah [God] is willing, but she still feels annoyed.”

Some mothers described their children’s anxiety and apprehension surrounding hospitalization, noting frequent aversion to treatment, fear of the hospital environment, and dislike of prolonged hospital stays. Additionally, children reportedly expressed concern about the physical appearance of other children with cancer. One mother of a 6-year-old boy diagnosed with acute lymphoblastic leukemia said:

> “When we were admitted to the department, he was shouting, and he did not want to enter because he saw the kids, how they were tanned and without hair. He was crying and saying he did not want to be like them and would not stay there. He was expressing that he was afraid.”

A few parents shared that their children exhibited jealousy toward healthy siblings or peers due to disruptions in their daily activities caused by the cancer diagnosis and treatment, such as missing school. They also grappled with feelings of inferiority, particularly related to physical changes like hair loss resulting from treatment. One participant expressed the following regarding her son:

> “He was crying and comparing himself with his cousin, who attends school regularly. He was jealous of two kids similar to his age because they usually went to school and had hair while he didn’t. Also, he told me to shave his brothers’ hair because he did not want to see their hair. It had a major psychological effect on him.”

Some mothers reported that their children became more attached and dependent on them after the diagnosis, often refusing assistance from other family members and placing a significant burden on them. This increased attachment seemed to stem from a profound sense of vulnerability and fear. One mother shared her thoughts about her son's heightened clinginess:

"He became too attached to me after his diagnosis; when his father tried to care for him, he refused to respond and always said he wanted his mother".

Theme 2: Physical Impact

The majority of parents reported that their children and adolescents experienced physical consequences as a result of their cancer itself or the side-effects of treatment. Half of the parents noted changes in their children's appetites, with some developing cravings for specific foods, while others experienced a loss of appetite, accompanied by nausea and vomiting. These fluctuations significantly affected their activity levels, leaving them inactive and lethargic. One participant expressed the following:

"Sometimes, he doesn't sleep and loses his appetite. He vomits a lot, sometimes reaches a percentage of 100%, and doesn't play as he used to. He was psychologically tired. Sometimes, he craves a particular food, but he can't eat. This time was very hard for him."

Half of the parents indicated that their children endured persistent pain from daily injections, cannulations, biopsy tests, and treatment procedures. This often led to a reluctance to accept further treatment and hospitalization. One mother of a 7-year-old boy diagnosed with T-cell lymphoma stated:

"He is in pain from the injection given to him and hates being in the hospital because of the injection."

The majority of participants observed changes in their children's physical appearance, including swelling and alterations in facial features. In particular, hair loss emerged as the most prevalent issue, significantly impacting the affected children's psychological well-being. A mother expressed the following:

"The hair fall was the most challenging thing for him; going to school or the hospital wasn't as difficult as accepting himself without hair. Even if we can't solve this, we were surprised when he told us to buy him a wig before Eid because he didn't want to see people without hair. He looked at himself in the mirror, and he felt bad; he cried and felt mad because he lost his hair and there was a malformation in his face."

Interesting, the psychological impact of hair loss was not limited to female children; many male children also experienced significant distress. Many parents reported that their children, feeling insecure and unattractive, became reluctant to go outdoors, preferring to wear wigs or head coverings to shield themselves from unwanted stares, questions, or comments.

Several parents acknowledged the impact of cancer on their children's immune systems. They observed that their children frequently contracted viral and bacterial infections, a result of their weakened immunity caused by chemotherapy. One mother shared:

"His situation is not stable. It always fluctuates. His side-effects might appear at any time. In November, he was admitted for a month, not because of his disease but because he had no immunity to overcome that virus."

Theme 3: Social Impact

Most parents noted that their children faced considerable social challenges during their cancer journey. Many shared that their children were subjected to bullying by peers, primarily due to the physical effects of cancer treatment, such as hair loss. This bullying had a detrimental impact on the children's psychological well-being, leading to reluctance in attending school and heightened feelings of isolation. One mother stated:

"He wasn't comfortable that he wasn't having hair because the kids his age were bullying him. I felt bad for him because they were bullying him. One of the days, my heart was hurt; he was crying for more than one hour because they were calling him bald."

Parents emphasized that a major social consequence of cancer on their children was the upheaval of their normal routines, particularly due to prolonged hospital stays. This resulted in their children missing out on regular activities, such as outings, socializing with friends, attending school, and receiving visits from family members. One mother expressed the following:

"From a full-of-life child who went to school, played football, and went to pray in the mosque with his close friends (…) to a child who found himself restricted. It was a shock for him, and he was affected psychologically; he was crying because of the feeling of restriction as he wasn't able to go out or play anymore or be visited. He lost his everyday life. He used to play with friends and pray with them; it was a daily life he lost suddenly without any prior notice."

A few parents noted that cancer led to social isolation, with their children becoming increasingly reluctant to engage with others, including family and friends. Among the various physical effects of cancer, hair loss emerged as a key factor contributing to this desire to withdraw from social interactions. A mother reflected on her son's self-imposed withdrawal:

"He isolated himself from (…) people and refused to go out. He was annoyed that he had no eyebrows, eyelashes, or hair."

Medical and Social Support to Cope with the Impact of Cancer

Insights from the interviews with parents of children and adolescents diagnosed with cancer revealed valuable information about how the children adapted to their illness. Many parents highlighted the crucial role of medical care and the support provided by both healthcare teams and volunteers at the hematology and oncology centers.

Theme 4: Role of Healthcare Professionals

Many parents shared that their children received diverse forms of support from individuals at the hematology and oncology centers, including both the HCPs and volunteers. Some parents described the care their children received from HCPs throughout their cancer journey, which extended beyond medical treatment to encompass psychological support. Parents particularly acknowledged the efforts of medical staff, especially nurses, who engaged the children in various activities such as drawing, reading stories, playing, and even providing gifts. One mother divulged:

"The consultant was like a family member who was always available to support us all day; seeing her during the day was normal, even after working hours. On the days when she was on a night shift, she always came to draw and tell him stories; this was very helpful. Also, the nurses were extremely friendly with us; they were very gentle and caring. They were not only doing their work but also playing and entertaining him. They were very eager about him and ensured he had a good relationship with his parents."

This comprehensive support fostered a strong bond between the patients and the medical staff, helping the children and adolescents feel at ease and reassured, which in turn facilitated their acceptance of treatment.

Theme 5: Social Support

Social support stood out as a crucial element in assisting children through their cancer journey, as highlighted by all participants in the study. Parents provided multifaceted support to their children during their cancer journey, offering psychological, spiritual, and religious assistance. Extended family members also played a significant role, offering gifts, recreational activities, and emotional support. Moreover, understanding and accommodations from the school community helped facilitate the children's adaptation to their illness, fostering a supportive environment for their academic and emotional needs.

The majority of parents emphasized the psychological support they provided, engaging their children in recreational activities, maintaining open communication, offering encouragement and reassurance, and meeting all of their needs. One participant expressed the following:

"I try to calm him down and play with him, and sometimes we take him on a ride around in the car as we can't let him go off with the other kids to play to avoid catching anything that would affect his health."

Additionally, more than half of the parents highlighted their role in providing spiritual and religious support, drawing upon Islamic rituals to aid their children in adapting to their illness. This often-involved prayers, recitations from the *Quran*, and sharing religious stories. These were intended to reinforce their children's spiritual connection and to help the children put their own struggles into perspective by drawing parallels to the resilience demonstrated by figures from religious narratives. A mother of a 10-year-old girl diagnosed with an osteosarcoma said:

"I always remind her of Allah [God], tell her the prophets' stories, and show her how patient they were when Allah afflicted them. I told her that the Prophet Muhammad lived as an orphan, and you just got something simple, making her strong and patient."

The majority of parents also refrained from disclosing the cancer diagnosis to their children, choosing instead to convey a different diagnosis or avoid mentioning the disease altogether in their presence. This strategy aimed to mitigate their children's distress and provide psychological protection against knowledge of their condition. Many parents expressed the belief that their children were too young to comprehend their diagnosis. One participant explained:

"He is a child and will not understand anything even if we tell him. He might listen on the television or somewhere else, but he will not be aware of the real meaning of it and how big it is. Another thing is I was afraid if I told him, he might tell his peers, who could hurt him by saying that you are a sick person or by another act that would hurt him from inside."

Some parents also feared that their children might come across frightening information about the disease online. Moreover, concerns about potential bullying, shock, or overthinking were cited as reasons for withholding the diagnosis from their children. However, a few parents chose to disclose the diagnosis gradually, using a simplified approach. One mother said:

> "I ask him what he knows about his illness, and he answers he has inflammation. We told him yes, and we thought it was inflammation in the brain. But we said to him that you had studied cancer in school and read on the Internet about it, and you see some kids lose their hair. We told him gradually and explained that it was a tumor called cancer."

Furthermore, more than half of the parents noted the extensive support provided by the child's extended family, including grandparents, aunts, and uncles. This support encompassed emotional, recreational, and material assistance and frequently involved gifts such as toys, games, monetary assistance, and valuable items like gold, all of which brought the children considerable joy and aided in their adjustment to their illness. Additionally, this familial support extended to continuous communication and prayers for their children's recovery. One mother said:

> "His grandfather used to slaughter Sadaqah [voluntary charitable donations] every time he left the hospital. His cousins used to take him to the fresh juice shops to prepare his juice by himself so he could be motivated to eat something. They also take him swimming to entertain and invite him to their houses. They supported him for a year, and I cannot return their favor. His uncles treat him especially, and they buy him a horse because he loves the horse, and they get him a shotgun to teach him archery, shooting; he is spoiled more than anyone else. One of his uncles opened a farm, and he told him that it was his and he could supervise it whenever he wanted to; they were very supportive. All my family tried their best to boost his mood."

Many parents underscored the significant role played by the school community in supporting their children diagnosed with cancer. Parents proactively informed school staff, including principals, teachers, and school health nurses, about their children's condition to ensure appropriate care during their absences and while at school. This involvement was intended to facilitate a supportive environment conducive to the children's well-being. One mother remarked:

> "I told the school principal about her disease because I wanted them to consider her situation, and they provided her with a comfy chair in the classroom, which was different than the remaining chairs; she was also instructed to go to the school clinic whenever she felt tired."

Some parents also highlighted the care provided by the school staff, which included maintaining continuous communication and keeping them updated about the school curriculum and lessons. This support contributed significantly to the children's adaptation to their illnesses within the school environment.

Many parents described the pivotal role of volunteers at the oncology center in supporting their children during the cancer journey. These volunteers encompassed both representatives from charitable organizations and independent individuals, typically engaging with the children twice weekly. Their support included daily activities such as games, reading stories, drawing, and commemorating various events. A mother said:

> "She loves the volunteers to the level she once said, 'Mom, I want to be a volunteer'. She loved what they were doing, and they had a significant role in promoting the physiological states of the kids. In our situation, we can't go out while in the hospital for therapy. They try to do activities, games, and stories with them. The child feels better and forgets about being in the hospital."

Moreover, volunteers demonstrated exceptional dedication by offering private lessons tailored to the school curriculum in order to mitigate the children's educational gap exacerbated by prolonged hospital stays. Such comprehensive support significantly bolstered the children's morale and facilitated their adaptation to the hospital environment.

DISCUSSION

To our knowledge, this is the first qualitative study in Oman that investigates the psychosocial experiences of Omani children and adolescents diagnosed with cancer from the perspectives of their parents. The parents provided valuable insights into their children's psychosocial experiences, highlighting a broad range of emotional, mental, physical, and social consequences. Aggressive cancer treatments led to complications such as hair loss, nausea, vomiting, and loss of appetite, resulting in adverse emotional and mental effects including aggression, nervousness, suppressed emotions, fear, worry, jealousy, inferiority, and clinginess. Likewise, other studies have observed that pediatric cancer patients commonly exhibit fatigue, pain, hair loss, and a lack of appetite (Torres et al., 2019; Al Qadire et al., 2020; Alghamdi et al., 2023), symptoms which can lead to increased aggression and other behavioral changes (Koolaee et al., 2016; Alghamdi et al., 2023). McLoone et al. reported anger, grief, sadness, fear, social isolation, body image concerns, pain, nausea, and fatigue among children and adolescents with cancer (McLoone et al., 2021). Sadness, worry, loneliness, homesickness, and isolation were identified as the most distressing psychosocial aspects of pediatric hospitalization and cancer treatment (Linder, et al., 2018; Alghamdi et al., 2023).

Bullying and social difficulties were also reported as significant challenges among children and adolescents with cancer due to the effects of treatment (Collins et al., 2019; Young et al., 2022). Similarly, in the current study, Omani parents reported that their children experienced bullying, disruption of their previous routines, and social isolation as a result of the distressing side-effects of cancer treatment. Nonetheless, this study also shed light on multiple factors that positively impacted the children's ability to adapt to their illness and significantly contributed to their well-being. In particular, Omani parents acknowledged the important role of supportive care services.

This study found that the healthcare system, including the healthcare team, volunteers, and specific services, directly helped patients adapt to their illnesses. Parents reported that their children received extensive support from both HCPs and volunteers at the hematology and oncology center, including psychological care and engaging in recreational activities like drawing, reading, and playing. This support fostered strong bonds and a sense of ease among the children, helping them accept treatment, while volunteers further contributed by providing educational lessons to mitigate learning disruption caused by prolonged hospitalization. In pediatric oncology, the delivery of supportive care is crucial for reducing adverse effects and improving the quality of life of children receiving cancer treatment (Mora et al., 2023). Schepers et al. reported that HCPs play a significant role in improving patients' health-related quality of life and providing emotional and psychosocial support for children and adolescents diagnosed with cancer (Schepers et al., 2016). Additionally, social workers are vital in coordinating non-medical supportive care services to further improve the well-being of pediatric cancer patients (Ostadhashemi et al., 2019).

Social support provided by parents, siblings, family, friends, and the school community was equally highlighted by the Omani parents of children and adolescents with cancer as paramount to aiding their children's adaptation process. Parents provided psychological support through recreational activities, constant attendance during medical appointments and hospital stays, open communication, encouragement, reassurance, and meeting all their children's needs. They also offered significant spiritual and religious support through various Islamic practices and rituals, as well as sharing stories of prophets' afflictions to help children contextualize their struggles. Deegan et al. noted that social support plays a critical protective role in helping children and adolescents cope with the daily stresses and challenges of their cancer journey (Deegan et al., 2023). Similarly, other studies have shown that most social support for children and adolescents with cancer comes from family members (Ritchie, 2001; Haluska, Jessee and Nagy, 2002), particularly parents, who play an active and vital role in supporting their children throughout their illness (Sharma et al., 2021; Alghamdi et al., 2023).

Furthermore, the present study found that the vast majority of parents chose not to disclose the cancer diagnosis to their children, opting instead to convey a different diagnosis or avoid mentioning the disease altogether. Several reasons were reported, including fears that disclosing the diagnosis could traumatize the child, causing emotional distress or anxiety that might negatively impact their well-being and ability to cope with treatment. This aligns with the findings of Al Balushi, who reported that Omani families often hide chronic illness diagnoses from younger individuals, believing this will keep the patient hopeful and upbeat, thereby contributing to a more positive outcome (Al Balushi, 2019). Cultural beliefs and traditions may dictate that certain information, especially concerning serious illnesses, should be kept within the family and not shared openly with children, particularly if they are deemed too young or emotionally vulnerable to handle the news. Parents may also choose not to disclose the diagnosis to maintain a sense of normalcy in the child's life, allowing them to continue their daily routines without the burden of knowing about their illness. However, concealing this type of information as a coping strategy can affect the psychological status of parents, leading to fatigue, sleep disturbances, and chronic stress (Chan et al., 2022).

Family spirituality has been recognized as a significant source of support during cancer diagnosis and treatment in Muslim societies (Al Balushi, 2019). In Omani culture, religion and family are pivotal, influencing every aspect of individuals' lives. Large, close-knit families are common, providing a robust support network during challenging times. Thus, it is unsurprising that Omani parents in the present study emphasized the importance of extended family support, with these family members often offering gifts, maintaining ongoing communication, and praying for the children's well-being. Al Balushi noted that extended family support in Oman includes providing food, psychological and emotional support, and gifts to children and their parents, both in the hospital and at home (Al Balushi, 2019).

The final source of social support identified in the current study was from the children's school communities. School typically serves as a central element in a child's life, providing routine, structure, and stability for both the child and their family. In this study, Omani parents emphasized the significant support their children received from their respective school communities, including both staff members and fellow students. They appreciated the cooperation and understanding shown by school staff, who created a supportive environment, maintained continuous communication, and kept the children updated on lessons. Similarly, Kuntz *et al.* reported that teachers contacted and encouraged children and adolescents diagnosed with cancer to engage in school, although the researchers noted that the school's relationship with the family remained significantly disrupted as a result of the cancer diagnosis and treatment process (Kuntz *et al.*, 2019).

STRENGTHS AND LIMITATIONS

Parents of Omani children and adolescents diagnosed with cancer, representing various ages, cancer types, disease stages, and time since diagnosis, were recruited from two of the three tertiary cancer referral facilities in Oman. These facilities serve patients from across the country, allowing for a broad and diverse range of experiences, which resulted in rich, varied, and saturated data. However, there are some limitations to this study that should be noted. First, the inclusion criteria limited participants to parents of children and adolescents aged 6 to 18 years, potentially excluding the experiences of parents with younger children diagnosed with cancer in Oman. Second, while the research objective sought to investigate the psychosocial impact of Omani children and adolescents diagnosed with cancer, relying solely on parental reports may not fully capture the perspectives and experiences of the children and adolescents themselves.

CONCLUSIONS

The findings of this study indicate that cancer has a profound emotional, mental, physical, and social impact on Omani children and adolescents. Despite these challenges, they adapt to their illness through various support networks, including healthcare teams, volunteers, extended family, friends, and school communities. In light of these findings, hemato-oncology centers in Oman should incorporate psychosocial support services into pediatric oncology care to address the emotional and psychological needs of children and adolescents with cancer. This integration could involve mental health professionals specialized in pediatric oncology. Moreover, schools should offer customized educational resources and emotional support for children with cancer by developing individualized education plans and facilitating peer support groups. Additionally, further research is necessary to enhance our understanding of the psychosocial experiences of children and adolescents at different stages of the disease, as well as those of their siblings. Longitudinal studies that track the long-term outcomes for children and their families, along with evaluations of intervention programs, can help identify areas for improvement and guide the development of evidence-based strategies for pediatric oncological support and care.

List of Abbreviations

HCPs	Healthcare Professionals
NOC	National Oncology Centre
PTSD	Post-Traumatic Stress Disorder
SQUH	Sultan Qaboos University Hospital

Declaration

Ethical Approval and Consent to Participate

The study protocol received approval from the local research ethics committees of the NOC and SQUH. All procedures conducted in this study adhered to the principles of the revised Declaration of Helsinki and good clinical practice. Written informed consent was obtained from the parents, and all participants were informed about requirements for participation and their right to refuse.

Consent for Publication

Not applicable.

Availability of Data and Materials

The datasets supporting the conclusions of this article are available from the corresponding author upon reasonable request.

Competing Interests

The authors declare that they have no competing interests.

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Authors' Contributions

LAS, HA, MFC, AAS, JA, NA, and MA contributed to the study's conception and design. LAS handled the data collection, while data analysis was performed by LAS and HA, who prepared the initial draft of the manuscript.

All authors reviewed earlier versions and provided feedback. Each author subsequently reviewed and approved the final version of the manuscript.

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