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ΦΡΟΝΤΙΔΑ

Μεταπτυχιακή Διπλωματική Εργασία

**Γονιμότητα γυναικών που επέζησαν από καρκίνο παιδικής ή
εφηβικής ηλικίας. Συμβουλευτική και κίνδυνος υπογονιμότητας.
Μια περιγραφική ανασκόπηση.**

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Diploma Thesis

**Fertility of female cancer survivors during infancy and adolescence.
Counseling and possible risk for infertility -A narrative review**

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Μέλη Εξεταστικής Επιτροπής συμπεριλαμβανομένου και του Εισηγητή

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Η κάτωθι υπογεγραμμένη Παπαντωνίου Ζωή του Νικολάου, με αριθμό μητρώου 20050 φοιτήτρια του Προγράμματος Μεταπτυχιακών Σπουδών Προηγμένη και Τεκμηριωμένη Μαιευτική Φροντίδα του Τμήματος Μαιευτικής της Σχολής Επιστημών Υγείας και Πρόνοιας του Πανεπιστημίου Δυτικής Αττικής, δηλώνω ότι:

«Είμαι συγγραφέας αυτής της μεταπτυχιακής εργασίας και ότι κάθε βοήθεια την οποία είχα για την προετοιμασία της, είναι πλήρως αναγνωρισμένη και αναφέρεται στην εργασία. Επίσης, οι όποιες πηγές από τις οποίες έκανα χρήση δεδομένων, ιδεών ή λέξεων, είτε ακριβώς είτε παραφρασμένες, αναφέρονται στο σύνολό τους, με πλήρη αναφορά στους συγγραφείς, τον εκδοτικό οίκο ή το περιοδικό, συμπεριλαμβανομένων και των πηγών που ενδεχομένως χρησιμοποιήθηκαν από το διαδίκτυο. Επίσης, βεβαιώνω ότι αυτή η εργασία έχει συγγραφεί από μένα αποκλειστικά και αποτελεί προϊόν πνευματικής ιδιοκτησίας τόσο δικής μου, όσο και του Ιδρύματος.

Παράβαση της ανωτέρω ακαδημαϊκής μου ευθύνης αποτελεί ουσιώδη λόγο για την ανάκληση του πτυχίου μου».

Η Δηλούσα
Παπαντωνίου Ζωή



Εισαγωγή

Προκειμένου να κατανοήσουν τις ιδιαιτερότητες των παιδιών ως ασθενών, η παιδική ηλικία άρχισε να αποτελεί αντικείμενο μελέτης για παιδίατρους, ψυχολόγους, κοινωνιολόγους και νοσηλευτές μετά τον 19ο αιώνα. Αποτέλεσμα της επιστημονικής προόδου που σημειώθηκε τις τελευταίες δεκαετίες στον τομέα της υγείας, ήταν η πρόληψη πολλών ασθενειών, καθώς και στον τομέα της ψυχολογίας, η δυνατότητα κατανόησης και υποστήριξης της ψυχολογίας ενός παιδιού.

Σημαντική εξέλιξη έχει σημειωθεί στη θεραπεία πολλών παιδικών καρκίνων τις τελευταίες δεκαετίες. Σήμερα, περίπου το 85% των παιδιών που διαγιγνώσκονται με καρκίνο, θα ζήσουν για 5 ή περισσότερα χρόνια, σε σύγκριση με ένα ποσοστό περίπου 58% επιζώντων παιδιών στην 5ετία μετά τη νόσηση, κατά τη δεκαετία του 1970. Πολλοί από αυτούς τους καρκίνους δεν θα επανεμφανιστούν ποτέ. Αυτά τα επιτεύγματα επέτρεψαν στους ερευνητές να στρέψουν μέρος της προσοχής τους στο να καταστήσουν τις θεραπείες λιγότερο τοξικές και να βελτιώσουν την ποιότητα ζωής των επιζώντων του παιδικού καρκίνου καθώς αυτοί μεγαλώνουν.

Οι θεραπείες για τον καρκίνο μπορούν ενδεχομένως να επηρεάσουν τη μελλοντική γονιμότητα τόσο των γυναικών όσο και των ανδρών. Για παράδειγμα, η ακτινοθεραπεία στην ή κοντά στην κοιλιά, τη λεκάνη ή τη σπονδυλική στήλη μπορεί να βλάψει τα κοντινά αναπαραγωγικά όργανα. Η ακτινοθεραπεία στον εγκέφαλο μπορεί επίσης να βλάψει την υπόφυση, η οποία συμβάλλει στον έλεγχο της παραγωγής ορμονών που απαιτούνται για την εγκυμοσύνη. Ορισμένοι τύποι χημειοθεραπείας μπορεί να επηρεάσουν τις ωοθήκες, προκαλώντας τους να σταματήσουν να απελευθερώνουν ωάρια και οιστρογόνα. Η θεραπεία για καρκίνο κατά την παιδική ηλικία μπορεί επίσης να επηρεάσει τη σεξουαλική υγεία, και την εικόνα του σώματος κατά τη διάρκεια της αναπαραγωγικής ηλικίας και της εφηβείας.

Όλα αυτά συνέβαλαν στην εξέλιξη της παιδιατρικής νοσηλευτικής, αλλάζοντας τον τρόπο παροχής φροντίδας στο νοσηλευόμενο παιδί, καθώς και στην οικογένειά του. Όταν το παιδί εισάγεται σε νοσηλευτικά ιδρύματα, δημιουργείται μια πιθανή ψυχοτραυματική εμπειρία, ιδιαίτερα όταν αυτή διαρκεί για μεγάλα συνεχή, ή διαδοχικά χρονικά διαστήματα. Η έγκαιρη πρόληψη και η κατάλληλη ψυχολογική υποστήριξη από τους επαγγελματίες υγείας συμβάλλουν στην ομαλότερη μετάβαση και στην αποτελεσματικότερη αντιμετώπιση της νόσου. Σκοπός του παρόντος άρθρου είναι η μελέτη του πλαισίου των επιζώντων από καρκίνο στην παιδική ηλικία και η εξειδίκευση στην αντιμετώπιση της υπογονιμότητας των γυναικών μετά την εμπειρία τους με τον καρκίνο κατά την παιδική και εφηβική ηλικία.

Πολλοί πάροχοι υγειονομικής περίθαλψης μπορεί να μη γνωρίζουν αν ένας ασθενής υποβλήθηκε σε θεραπεία για καρκίνο ως παιδί, ιδίως αν έχει μετακινηθεί μεταξύ ιατρικών συστημάτων, πόλεων ή ακόμη και χωρών. Οι γυναίκες που έχουν ιστορικό καρκίνου κατά την παιδική τους ηλικία έχουν μεγάλες πιθανότητες να μείνουν έγκυες και οι περισσότερες από αυτές διανύουν μια εγκυμοσύνη χαμηλού κινδύνου. Αλλά είναι ζωτικής σημασίας για τις μαιές/ευτές και τους άλλους επαγγελματίες υγείας που τις φροντίζουν να γνωρίζουν και για τους περιγεννητικούς κινδύνους τους.

Introduction

In order to understand the peculiarities of sick children, childhood began to be the subject of study for pediatricians, psychologists, sociologists and nurses after the 19th century. The result of the scientific progress that has been made in the last decades in the field of health, was the prevention of many diseases, as well as in the field of psychology, the possibility of understanding and supporting the human child's soul.

Major evolution has been made in treating many childhood cancers over the last several decades. Nowadays, about 85% of children diagnosed with cancer will live for 5 or more years, compared with about 58% in the 1970s. Many of these cancers will never reappear. These accomplishments have allowed researchers to turn some of their focus into making treatments less toxic and improving the quality of life for survivors of childhood cancer as they grow up.

Cancer treatments can possibly affect future fertility for both women and men. For example, radiation therapy to or near the abdomen, pelvis, or spine can harm nearby reproductive organs. Radiation therapy to the brain can also damage the pituitary gland, which helps control the production of certain hormones needed for pregnancy. Some types of chemotherapy can affect the ovaries, causing them to stop releasing oocytes and estrogen. Having been treated for cancer during childhood can also affect sexual health, and body image during the childbearing years and puberty.

All of this contributed to the evolution of pediatric nursing by changing the way of providing care to the hospitalized child, as well as to his family. When the child is admitted to nursing institutions, a potential psycho-traumatic experience is created, especially when it lasts for long continuous, or consecutive periods of time. Early prevention and appropriate psychological support from health professionals contribute to a smoother transition and more effective treatment of the disease. The aim of this article is to study the context of childhood cancer survivors and to specialize in dealing with the infertility of women after their experience with cancer.

Many healthcare providers may not know if a patient was treated for cancer as a child, especially if they've moved between medical systems, cities, or even countries. Women who have a history of childhood cancer have a good chance of achieving pregnancy, and most of them are not at high risk. But it's vitally important for the midwives and other health professionals caring for them to know about their perinatal risks.

Introduction

Fertility and child cancer survivors

The survival rate for children's malignancies has increased from 20% to approximately 80%, building on 40 years of advancements in cancer detection and treatment (Bleyer, 1997). For survivors, their families, and healthcare professionals, the early and late impacts of therapy are starting to gain more significance (Eiser, 1998). A new barrier in reestablishing normalcy after cancer is starting to emerge for an increasing number of pediatric cancer survivors.

One of the most frequent long-term health issues mentioned by childhood cancer survivors and one that can be quite concerning, especially for female survivors, is infertility. The medical and emotional effects of female infertility are difficult to address given the moral and legal dilemmas regarding fertility preservation (Crocker, 2005). Recent developments in fertility preservation may soon make it possible for females of all ages to use preventative radiation and/or chemotherapy to safeguard their ability to conceive (Nieman, et al., 2006).

Understanding the fertility problems that women may experience following therapy is progressing. For a woman, infertility as a stand-alone health issue can be emotionally devastating and is frequently perceived as a loss of one's sense of femininity (Schover, Psychosocial aspects of infertility and decisions about reproduction in young cancer survivors: a review, 1999). The possibility of infertility affects a woman's most private elements of life after cancer, including her relationships, her aspirations for starting a family, and her worries about getting pregnant and giving birth (Schover, 2005). Infertility may add another more worry to a long list of anxieties and worries for cancer survivors who may be suffering with extra medical and mental issues. According to some survivors, losing one's fertility may be just as distressing as dealing with cancer (Dow, 1994). The fact that female cancer survivors, particularly juvenile cancer patients, lack the same clear-cut alternatives to address their fertility as their male counterparts further complicates the matter. Male patients who have reached puberty now have a whole new reproductive prospective thanks to developments in semen cryopreservation and intracytoplasmic sperm injection (ICSI) (Tournaye, et al., 2004). What is conceivable for female survivors is also beginning to alter as a result of recent developments in reproductive science.

From birth to age 19, there are 186.6 new cases of cancer in children and adolescents per million children per year. One in 285 children will be diagnosed with cancer before becoming 20 years old, and one in 530 young people between the ages of 20 and 39 will have survived a kind of childhood cancer (Force, et al., 2019). In order to diagnose, treat, and monitor young patients and survivors, it is anticipated that the majority of pediatric and primary care clinics will be engaged. Additionally, with an 80% 5-year overall survival rate, the number of adolescents and young adults who have survived childhood cancer is rising globally (Force, et al., 2019). Although curing cancer in adolescents and young adults is the primary aim of treatment, long-term negative effects of therapy should be taken into account at the time of diagnosis, before and during treatment, and throughout long-term follow-up (Armund, et al., 2015).

Around two-thirds of youth and adolescent cancer survivors have late adverse effects after therapy worldwide (Siegel, et al., 2020). Infertility is one late impact that is frequently observed. Men experience infertility or subfertility at high rates (men: 30%; women: 46%) as a result of cancer therapy (Wasilewski-Masker, et al., 2014).

Furthermore, because of the negative effects of cancer treatment, particularly alkylating chemotherapy or radiation to the abdomen and/or pelvis area, cancer survivors who become pregnant have an increased risk of miscarriage, preterm birth, and abnormalities like gestational diabetes mellitus, cardiac dysfunction, diminished or failed lactation in the mother, metabolic syndrome, and low birth weight in the child (Tang & Webber, 2018). The reproductive system, pubertal development, hormonal control (dysfunction of the hypothalamus-pituitary axis), fertility, sexual function, and quality of life may all be negatively impacted.

The problem of maintaining reproductive health is crucial for adolescent and young adult cancer survivors, since losing fertility can be just as distressing as receiving a cancer diagnosis (Benedict, et al., 2016). In addition, a lot of patients indicate a wish to have kids in the future. In recent multicenter European research, both patients (86.1%) and parents (96.3%) expressed a high desire for biological parenting for themselves/their children. The study looked at fertility-related aspirations, worries, and decision-making of teenage cancer patients and their parents. The study also revealed that individuals with a high predicted risk of reproductive impairment had a higher likelihood of worrying about it (Korte, et al., 2020).

Therefore, from cancer diagnosis to treatment, the healthcare environment has to pay more attention (Murphy, et al., 2015). Although some practice recommendations are primarily geared toward influencing survivorship and are primarily focused on fertility, they do not cover the full range of reproductive health, which includes romantic relationships, friendships, body image, sexuality, sexual identity, fertility, and contraception. Particularly, reproductive issues have been linked to signs of anxiety and sadness, bereavement, low self-esteem, and a distorted sense of identity among teenage and young adult childhood cancer survivors. According to several studies, young adult and teenage cancer survivors are frequently worried about their fertility and the health of their unborn children (Ussher & Perz, 2019).

There have been several research on the psychological functioning of teenage and young adult childhood cancer survivors, but few have looked at how these worries appear. It is essential that disease experiences are socially formed, value-laden, and molded by culture (Byrne, et al., 2018). For instance, it is proposed that the immediate and extended family—where people have strong social links to their social groups, religion, and families and often prefer to make collective decisions—is where people draw much of their identity. Infertility is a condition that is becoming more prevalent in everyone's culture and has an impact on people's mental and emotional health. Given that pregnancy may be viewed as a validation of a woman's femininity, having a child has a personal significance for the mother. Because it often has an impact on how women feel about themselves, infertility can harm and disturb the portrayal of female self-image. Infertile couples experience challenges with their perceptions of masculinity and femininity since they have a strong desire to be parents. They lose the feeling of identity that comes with being a man or woman when they are no longer able to reproduce (Byrne, et al., 2018).

Most women who are diagnosed with cancer as teenagers or young adults will go on to live extended lives because of the advancements in cancer treatment. In the United States, there are currently around to 370,000 young adult or female survivors who are of reproductive age (American Cancer Society, 2016). Compared to their siblings or the general population, young cancer survivors have a greater overall risk of infertility, although individual risk varies greatly depending on the kind and intensity of cancer therapy. For instance, even while the general percentage of female childhood cancer survivors who are infertile is 13%, those who got entire body radiation are

at a 28% higher risk (Barton, et al., 2013). For teenagers or young adults who have survived cancer, fertility loss can be a heartbreaking side effect that lowers quality of life. Previous research has demonstrated that the thought of losing fertility can be as traumatic as receiving a cancer diagnosis, and for some people, the prospect of retaining fertility is crucial to managing the burden of cancer therapy (Trèves, et al., 2014). Unmet knowledge demands on fertility are also linked to distress, in addition to the negative effects of infertility itself. Professional societies like the American Society of Reproductive Medicine and the American Society of Clinical Oncology have had clinical guidelines advocating for counseling on infertility risk and fertility preservation options at cancer diagnosis for more than ten years, taking into account infertility risks, information needs, and the existence of efficient fertility preservation strategies (fertility counseling) (National Comprehensive Cancer Network, 2017). Cancer patients who are adolescents or young adults are in need of fertility advice, regardless of the risk of infertility.

Prior to cancer treatment, fertility counseling is meant to educate patients and their families about their potential future pregnancies and to assist with any needs for fertility preservation (National Comprehensive Cancer Network, 2017). When someone is at a higher risk of infertility, fertility counseling may help them understand this danger and encourage them to think about fertility preservation alternatives; in contrast, when someone is at a lower risk of infertility, counseling may reassure them. Because the informational requirements of cancer survivors include extra factors, it is significant that the demands for fertility counseling in the cancer community differ from those of the general infertile group. These requirements range from emotional assistance, such as telling partners about their history of cancer, to medical hazards, such as risks associated with infertility, child health, and pregnancy. It is predicted that fertility counseling will have a long-term effect on reproductive issues in survival if it is relevant to the informational requirements of teenage or young adult survivors. Nevertheless, evidence suggests that specific oncofertility needs are not always met by fertility counseling (Gorman, et al., 2015).

Research on the long-term effects of fertility counseling prior to cancer treatment is few (Gorman, et al., 2015). Fertility counseling is frequently linked to better fertility preservation decision-making, notably less regret and conflict over the decision and better dealing with the burden of cancer treatment (Deshpande, et al., 2015). The benefits of fertility counseling for social well-being have been demonstrated to a great extent. The quality of life as measured by general metrics did not appear to be correlated with fertility counseling by oncology practitioners; however, fertility specialist counseling may lead to higher life satisfaction than fertility specialist counseling alone. Other evidence points to the possibility that concerns about reproduction may not have been sufficiently addressed during counseling at the time of cancer diagnosis, leaving unmet informational needs following fertility counseling and a need for extra reproductive treatment throughout survival (Gorman, et al., 2012).

Reactions of Child cancer patients at the age of 6-11 years old

During school age, the child can evaluate and appreciate the point of view of other people, while he is given the opportunity to communicate with people that are around him (Ethier, 2011). The child develops initiative, purpose, self-care skills and a sense of body image and sexual identity. According to Erikson (1959), these characteristics constitute the stage of emotional and social development, where productivity or inadequacy is distinguished. In

this stage, the child acquires abilities and skills and feels satisfaction towards himself and his family (significant others) whenever a task is completed or achieved.

Socialization within the peer group is recognized as an important factor in the psychological development of children. It is understood that the diagnosis of cancer can affect the area of socialization to a great extent. The child lacks social interaction techniques, such as taking leadership in the group, dealing with hostility and resolving disputes, and suffering social isolation. Subsequently, the reactions of peers play an important role, as they can influence the child's emotional reaction to the disease (Chatira, 2000). However, school problems are also intense. Both the child and the family face great problems when returning to the school environment, as the child is often forced to miss his lessons due to his long-term hospitalization. Frequent absences from school can lead to discouragement and affect his psychology and self-confidence. The opportunities for success and competition are particularly reduced, as the child is absent from various activities (Zafeiropoulou-Koutroumpa, 2013). Changes in body image also begin to be noticed. When returning to school, these body changes can cause a child to feel insecure, isolated or depressed. Reactions, however, may also appear from classmates or school staff. This creates the need for counseling intervention in relation to school reintegration (Chatira, 2000).

In conclusion, the child tries to understand the causes of his situation, but is unable to give any explanation. As a result, anger arises, the child becomes quite vulnerable, while in some other cases it may show a return to previous developmental stages and changes in sleeping and feeding. It is also common for him to blame his parents for his condition. In these cases, counseling intervention is deemed necessary (Panagiotopoulou, 2018).

Reactions of teenager cancer patients at the age of 12-17 years old

Adolescence is considered a difficult period, where many changes take place. According to Erikson (1959), the adolescent, in terms of his emotional and social development, is at the stage of identity, or role confusion. Gradually, he discovers himself, his values, his wants and beliefs and tries to organize his roles. This is the most important process for the adolescent, as he searches for his personal and sexual identity, creates relationships with the other sex and tries to become independent from his family (Ethier, 2011). His socialization with his peers also plays an important role. When an adolescent falls short of the above processes, he is overwhelmed by negative emotions and is overcome by confusion about his identity (Zafeiropoulou-Koutroumpa, 2013). In addition, the emotional changes manifested during the adolescent stage by disease may even lead him to symptoms of depression (Panagiotopoulou, 2018).

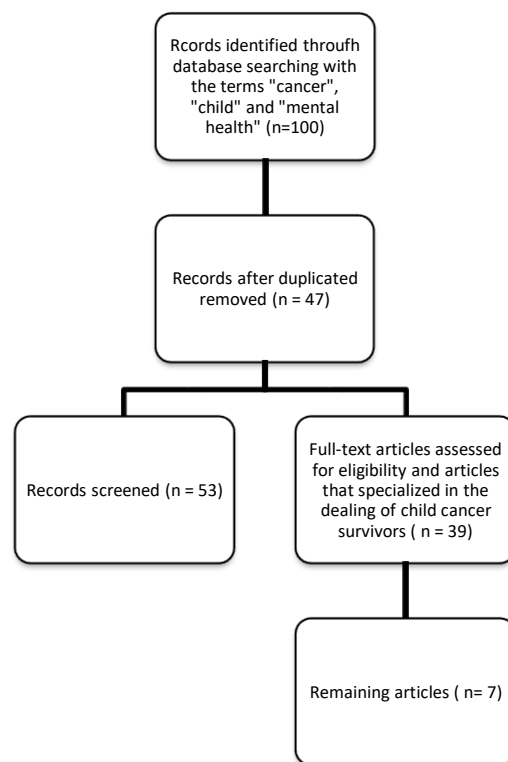
During adolescence, young people can understand the diagnosis of cancer. They elicit information from their parents, medical and nursing staff, and the internet and interact with the disease, fully aware of its consequences and even the possibility of death. Their main concern is the change in body image, hair loss or other physical changes such as the amputation of a limb, which they experience with a high degree of anxiety, worry and low self-esteem. It is surprising that at this particular stage, the change in body image can become more important, even than that of imminent death (Zafeiropoulou-Koutroumpa, 2013).

When it comes to relationships with peers, the difference between adolescents suffering from cancer is obvious. Relationships with the opposite sex present reduced opportunities for friendship or mature relationships and increased concerns such as why he suffers from the disease, and whether he will be able to survive, marry or have

a family in the future (Ethier, 2011). In family relationships, overprotection on the part of parents is in stark contrast to the independence that teenagers desire. In cases where the effects of cancer are great, the exact opposite can be observed, i.e., great dependence of the child on the parents, which creates confusion on both sides (Ethier, 2011). The feelings of the adolescent may be accompanied by sadness, bitterness, anger and disappointment, while limited opportunities for career and work can be distinguished, since he loses control of the situation (Ethier, 2011).

Systematic Review

Concerning the empirical part of this essay, there is conducted a systematic review, which specializes in the role of professionals in child cancer survivors. Above, there is presented the selection of the articles that were chosen for the specialization of the systematic review of child cancer survivors,



while above there is also presented a table with information about the presented studies from the systematic review.

Authors	Title	Context	Design Type
Newton et al. (2021)	<i>Facing the unknown: uncertain fertility in young adult survivors of childhood cancer</i>	Childhood cancer, fertility, infertility	Qualitative study
Cortez & Joelson (2013)	<i>THE EFFECTIVENESS OF CHILDHOOD</i>	Child Cancer	Questionnaire Survey

	<i>CANCER SURVIVORSHIP PROGRAMS IN CALIFORNIA</i>		
Barton et al. (2013)	<i>Infertility, infertility treatment, and achievement of pregnancy in female survivors of childhood cancer: a report from the Childhood Cancer Survivor Study cohort</i>	Infertility, childhood cancer, female survivors	Cohort Study
Lehmann et al. (2019)	<i>Gonadal functioning and perceptions of infertility risk among adult survivors of childhood cancer: a report from the St Jude Lifetime Cohort Study</i>	Childhood cancer, infertility	Cohort Study
Schmidt et al. (2016)	<i>Motivations for having children after cancer-a systematic review of the literature</i>	Infertility, Cancer	Systematic Review
Schwartz et al. (2010)	<i>Self-reported health problems of young adults in clinical settings: survivors of childhood cancer and healthy controls</i>	Childhood cancer, survivors	Clinical Research
El Alaoui-Lasmali et al. (2022)	<i>Fertility discussions and concerns in childhood cancer survivors, a</i>	Fertility, childhood cancer	Systematic Review

	<i>systematic review for updated practice</i>		
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Role of professionals in child cancer survivors

When a child, teenager or young adult is diagnosed with cancer, their life, and the lives of their family, is changed forever. If these people survive cancer, they are considered to be in a survivorship state and require various levels of post-treatment support and medical care. Advances in the quality of medical treatments have increased the chance of survival for these children, adolescents and young adults, who survive at least five years after the diagnosis. Given the excellent survival rates and the growing population of child and adolescent cancer survivors, appropriate follow-up medical care, combined with psychosocial and cultural services, can significantly improve the quality of life of this population (Kloni, 2015).

In a research, Cortez and Joelson (2013) evaluated the integrated services offered by existing childhood cancer survivor programs in California as indicated by health professionals and investigated their effectiveness in providing psychosocial, cultural and spiritual support for survivors and their families. Twenty-one health professionals, with either health or mental health backgrounds, including physicians, nurses, social workers, and psychologists, who were working with childhood cancer survivors, participated in the research. The purpose of the research was to note, from the health professionals themselves, the shortcomings of the programs and services related to childhood cancer and its survivors, and to make the necessary changes to offer individuals and their families the best strong services.

All professionals emphasized that the main purpose of the programs is the current and long-term medical follow-up and care of the survivor. Most practitioners indicated that these programs provide a moderate level of psychosocial support for survivors, families and carers. Most agreed that culture and spirituality could be at a higher level. Also, the researchers emphasized the importance of health professionals not only having to study and work with the patient but also with the whole family as a whole (Cortez & Joelson, 2013). According to Kloni (2015), survivorship therapy should be based on the child, adolescent, young adult, and their entire support system. By supporting these relationships, professionals strengthen survivors' support systems, enabling better and more stable long-term care (Kloni, 2015).

Many people have expressed the belief that the services offered under these programs would be more comprehensive with increased funding and greater acceptance by insurance companies. The increase in funding will allow programs to enhance their current psychosocial, cultural and spiritual services by integrating innovative services and hiring more professionals beyond medical staff, such as social workers, counselors and dieticians. According to Zebrack et al. (2004), currently, 80% of children, adolescents and young adults diagnosed with childhood cancer survive. The research highlights that there is a need for further study that focuses both on the required services and how these services can improve the quality of life of the affected individuals and their families and carers (Zebrack, et al., 2004).

Fertility-related concerns in childhood cancer survivors

Over 80% of children with cancer now survive into adulthood as a consequence of comprehensive, multimodal

therapy (Newton, et al., 2021). Adult childhood cancer survivors, on the other hand, are at risk for a variety of late consequences, including decreased gonadal function and infertility. It is generally known that different cancer therapies might cause infertility, defined as the failure to deliver a viable pregnancy following a 12-month period of carefully scheduled, unprotected intercourse (PCASRM, 2013). Patients who underwent alkylating drugs, cisplatin, or other heavy metal-containing chemotherapy are at risk. Radiation therapy to the hypothalamus/pituitary axis, ovaries, or testes has the potential to greatly enhance this risk. In females, ovarian failure or a lack of ovarian follicles can lead to infertility or premature menopause. Ovarian failure or fewer ovarian follicles in females can result in infertility or premature menopause; spermatogenesis in males can be affected both temporarily and permanently, resulting in lower sperm production and infertility (Levine, et al., 2018). In a study conducted by Barton et al. (2013), survivors were shown to have an elevated risk of clinical infertility when compared to their siblings, which was most prominent during early reproductive ages. In another study, survivors self-reported reproductive issues four times more frequently than matched healthy controls (Schwartz, et al., 2010). Though rates vary greatly depending on the kind of therapy, around 11-26% of female childhood cancer survivors and 42-66% of male childhood cancer survivors experience infertility later in life (Chemaitilly & Cohen, 2017).

Many childhood cancer survivors have indicated a strong desire and are optimistic about having children in the future (Lehmann, et al., 2018). Nonetheless, infertility concerns are widespread, and they are related to the ambiguity of risk; the health of future biological children; and, for women, concerns about their own health during pregnancy. Furthermore, in the context of infertility risk among childhood cancer survivors, psychosocial distress, sexual dysfunction, relationship challenges, and negative effects on feelings of femininity and masculinity have been documented (Schmidt, et al., 2016). When adult childhood cancer survivors reach childbearing age and begin romantic relationships, infertility is one of the most devastating consequences. Infertility is not always readily expected, despite knowledge of the etiology of treatment-related infertility and increased awareness of the dangers among both healthcare practitioners and adult childhood cancer survivors. It has been observed that survivors both underestimate and overestimate their infertility risk (Lehmann, et al., 2019). Uncertainty about fertility status has also been documented, possibly reflecting what survivors remember (or have forgotten) from conversations with parents and/or healthcare providers during treatment, as well as a lack of fertility-related information or education throughout the cancer (Lehmann et al., 2018). Uncertain fertility may represent the true uncertainty of risk. Relying on treatment-related risk factors is difficult because different responses to therapy result in variations in survivors' fertility. As a result, the treatment-indicated risk does not immediately convert into adult fertility status. Many survivors may not receive reproductive examinations throughout their adolescence and young adult years because either investigation is not made available to them or they choose not to pursue such exams. Furthermore, while infertility is thought likely as a result of cancer therapy, the potential of conception persists. In Barton's research (2013), for example, nearly two-thirds of survivors with clinical infertility reported a pregnancy. To make matters worse, neither adult childhood cancer survivors nor the general population can be tested for future reproductive potential. Ovarian reserve tests only offer estimations and do not indicate natural reproductive potential in regularly ovulating women, while sperm analysis cannot predict male sterility (Newton, et al., 2021).

Cancer care for children is continually developing, including reproductive counseling. Logan and Anazodo (2019) note in their study the absence of precise guidelines on how to best perform fertility counseling with cancer patients, both before and after cancer treatment. The health care professional and the fertility expert must adjust to the patient's psychological condition and life goals at each level of care. They must offer clear and representative information about the risks of infertility and the various reproductive choices. They should also be cautious about causing further stress in patients who have already been weakened by the revelation of the cancer diagnosis and subsequently throughout the remission phase.

Fifty-eight publications were analyzed by El Alaoui-Lasmaïli et al. (2022) in order to understand the impact of reproductive problems indicated barriers and facilitators involved in fertility discussion and in maintaining or terminating fertility preservation. One of the most significant hurdles to fertility conversation was related to time: the exigency of oncological care leaves little time for fertility talks or thinking about life goals (El Alaoui-Lasmaïli, et al., 2022). Attitudes about motherhood evolve with time, and patients who are further along in their survival are less plagued by cancer worries. As a result, in the overall treatment of patients, the self-constructs that exist throughout cancer and are influenced by the repercussions of surviving a life-threatening illness should be acknowledged.

Concerns about infertility will emerge later in life in the context of partnerships and family aspirations (Stein, et al., 2014). According to surveys of young adult cancer survivors, their expectations for reproductive health, romantic partnership, friendships, body image, sexuality, gender identity and orientation, fertility, contraception, and psychosexual adjustment are similar to those of their healthy counterparts (Murphy, et al., 2015). As a result, infertility might be perceived as a narcissistic wound that leaves a feeling of emptiness. Some women equate fertility with the desire to seem normal. According to Dryden et al. (2014), some patients regard parenthood as crucial to their psychological and social fulfillment. Raising awareness and discussing reproductive issues or alternatives to biological motherhood may be advantageous to survivors' family-building goals.

Conclusion

In summary, every stage in the life of a child with child cancer is important and their particularities, needs and concerns should be taken seriously into account.

Women who were treated for cancer at an early age would benefit from discussions with their midwives about whether they need a referral for high-risk obstetric care. Healthcare providers' acquaintance with a patient's cancer history can also urge other significant conversations about reproductive health. For example, some women go through menopause early after taking certain chemotherapy drugs. That can shrink their window for conceiving—or pursuing fertility preservation techniques—compared with women who haven't been treated for cancer.

The family, along with the therapeutic team, must work effectively to promote the best result. During the input of the child and his family to the therapeutic institutions, there is a need for effective adaptation of the child to the new environment and the future healing procedures, in order to prevent and reduce the negative effects that the new facts are likely to bring to the mental state of the child. The attitude of the child's environment, whether from the family or the therapeutic team, determines the course of the therapeutic process. In addition, the timely updating of all the data concerning the disease, allows the child to perceive the real situation, without having time to create his own guesses, and in many cases to feel guilt, fear and the feeling of being punished.

The expectation of low-risk pregnancy and a healthy baby should be the norm, even for childhood cancer survivors.

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