



**PSYCHOLOGICAL CHALLENGES OF CANCER IN ADOLESCENTS AND YOUNG
ADULTS AGED 18-24 YEARS**

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<p>Abstract:</p> <p>Cancer is a significant public health challenge, and the burdens associated with cancer continue to increase. According to new studies four out of ten people dying prematurely die because of cancer as compared to people dying because of heart diseases, AIDS or strokes. Some people died while others recovered. People who are diagnosed with cancer and undergo treatment are usually at risks of emotional, psychological and social challenges. This study examined the psychological challenges faced by adolescents and young adults (aged between 18 and 24 years) during cancer diagnoses and treatment process. The study also sought to explore the nursing interventions for the psychological challenges. The research employed a systematic literature review that examined relevant scientific journal articles. Data was analyzed through content analysis of data. The findings from the study reveal that when adolescents are fighting cancer, several psychological challenges arise such as rejection, anger, jealousy, anxiety, guilt and loneliness, isolation, fear, frustration, shame, guilt, vulnerability, the alteration of self-image and negative body-image, persistent feelings of worthlessness, sadness, anxiety, and depression. Several nursing interventions have been applied in regard to adolescents</p>	

suffering cancer including Cognitive Behaviour Therapy (CBT), Interpersonal Psychotherapy, Acceptance and Commitment Therapy, Psychoeducation, structured counseling, coping skills intervention and behavioral therapy is common. Psychological nursing interventions offer social support, improve resilience to stress, protect one from developing trauma psychopathology that helps in maintaining good mental and physical health.

Keywords:	Cancer, Nursing Interventions, Adolescence, psychological distress.
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1. Introduction

Cancer ailment has been reported to be one of the leading cause of death in the underdeveloped and the developed nations (Hartmann & Loprinzi, 2012). According to new studies, four out of ten people die prematurely because of cancer as compared to people dying because of heart diseases, AIDS or strokes (Stewart & Wild 2017). This figure has surpassed the number of people dying due to suicide, murder or accidents (Miller et al., 2016).

In Finland, over 250,000 individuals have had cancer at some point in life. There is an increase in prevalence of patients with cancers in Finland. For instance, in 2011, over 30,000 new cases of cancer were reported (Virtanen et al., 2015). More recent statistics of 2016 indicate that approximately 11,700 Finns die due to cancer each year making the condition to be ranked the fifth cause of death in Finland (Kero et al., 2016). Among the populations of the adolescents and young adults, the common cancer type includes lymphoma, leukemia and testicular cancer. Adolescents are more likely than children or the aged populations to be diagnosed with particular cancers including melanoma, sarcomas, Hodgkin lymphoma, testicular cancer, and thyroid cancer (Torre et al., 2015). Nevertheless, the incidence of particular cancer types is different based on the age. Testicular cancer, leukemia and lymphoma cancer, as well as thyroid cancer, have been found to be the most prevalent amongst the age group of between 15 and 24 years (Stewart & Wild, 2017). In the United States, approximately 70,000 young individuals aged between 15 and 38 are diagnosed with cancer annually (Stewart & Wild, 2017). The figure accounts for an estimated number of five percent of cancer diagnoses in the U.S. The number is indicated to be approximately six times of the number of cancer cases that are found amongst children aged between zero and fourteen years. In the United Kingdom, the new cases of cancer reported each year amongst the teenagers include 2,400 (Ferlay et al., 2015).

The visible external signs of cancer are less complicated to deal and cope with, as they are treatable (Miller et al., 2016). In contrast, the invisible symptoms can be constant and even more severe as compared to the visible signs since they are unseen not mostly unmeasurable. The challenges and frustrations experienced due to reduced ability to lead a normal life can be debilitating during cancer ailment (Mattsson, 2008). Cancer illness can lead to dependence on other people that can breed a negative attitude and self-deprecation. Also, it sometimes breeds self-doubt and worthlessness leading to a decline in self-esteem (Brimeyer, 2012). The isolation of a person due to hospitalisation results in damage to one's self-image creating a vicious cycle of negativity. Other common psychological challenges among cancer patients and other patients suffering from chronic ailment include frustration, helplessness, sadness, hopelessness, resentment, irritability, anxiety, anger and stress. These psychological challenges are a natural part of the grieving process experienced by people diagnosed with cancer (Husson & Zebrack, 2017).

Adolescents are at a unique milestone in the life of maturing and psychological developments. Their life includes time for experimentation, self-discovery, and exploration (Mattsson, 2008). Therefore, being diagnosed with cancer at this age can be devastating. It means that the time of exploration is replaced by confinement to a health facility or at home while experimentation will be substituted to adherence and compliance with strict healthcare and medical. For self-discovery, it takes place within a setting of fear and anxiety as well as with several medical interventions. The emotional and psychological components of cancer condition are often overlooked while medical care is being delivered (Miller et al., 2016). In other cases, it is increasingly difficult to diagnose emotional challenges in a medically ill person, but the diagnosis of such conditions are vital towards the proper treatment. There is a need for comprehensive research concerning the psychological challenges faced and evidence-based

nursing interventions that can increase the survival rates thus better quality of care as well as the quality of life.

The intent of the current study is to examine the psychological challenges that the adolescents and young adults (18 years to 24 years) face after being diagnosed with cancer. Also, the study examines the nursing interventions that can help deal with such challenges.

2. Background

Cancer involves an array of related illness whereby the body cells start to divide and multiply into the nearby tissues. Cancer begins at any point of the body made up by cells (Hartmann, Loprinzi & Mayo Clinic, 2012). The cancerous cells usually mature and subdivide to generate new cells. Unlike in the regular cell growth where old and damaged cells die of and are replaced by new cells, the abnormal cancerous cells survive damage and old age thus divide without stopping. Most cancers grow into solid tumors including tissue masses. The cancerous tumors are known as malignant implying that they can spread easily or invade the surrounding tissues (Silverstein, Silverstein & Nunn, 2004). The possible signs of cancer include abnormal bleeding, unexplained loss of weight, the formation of lumps and alteration of the bowel movement. More than 100 kinds of cancer have been identified and in 2015 approximately 90.5 million individuals had cancer with 14.1 million cases occurring annually and in the same year, 8.8 million deaths were reported due to cancer (Stewart & Wild, 2017). The majority of cancers experienced amongst the female include cervical, breast, lung and colorectal cancers. For males, the highest reported cases include stomach, lung, colorectal and prostate cancers. In the subsequent sections, we examine cancer in adolescences and its psychological impacts and nursing interventions (Virtanen et al., 2015).

2.1 Adolescence and Young Adults and cancer

Crockett (2014) defines adolescence as a formative and transitional time from childhood to adulthood, and it entails psychological, biological and cognitive changes. For young adults, it is the age ranging between late teenagehood and to early thirties and the period preceded middle adulthood in human development (Cho, 2016). The changes lead to adolescents reappraising themselves in terms of relationships and the social world. It is argued as a time of vulnerability to emotional as well as social challenges. Adolescents undergo adjustments such as

individuation and the formation of identity with the societal expectations being put on them. According to Crockett (2014), it is a period of energy potential as well as dynamism but with significant uncertainty, search for a place in the community and awkwardness while the transition is underway. The components of uncertainty include the ailment complexity and ambiguity involving an interplay of intrinsic and extrinsic aspects that affect their wellbeing (Cho, 2016). Uncertainty is most significant when the patient does not have information regarding what is taking place, or they do not understand the information offered (Crockett, 2014).

Additionally, uncertainty involves when the treatment events are strange to persons and unexpected. In the event uncertainty is high, concerns arise about psychological adjustments for adolescents who have cancer. Crockett (2014)) views adolescence as a transitional phase where young adults and adolescents experience psychosocial, normative, physical and cognitive changes that lead to changes that contribute to stress. However, most adolescents can cope successfully with the demands of this period. Thus, they achieve success productivity and coping. The period is marked by rapid developments including physical growth. Concerning the age of adolescents, Cho (2016) asserts that no consensus across various fields as a generation change occurs. Some indicate neuroscience has supported 25 years as the new 18 years and such assertion since the neural links between the cortices and amygdala dealing with cognitions and emotions are still growing and maturing into adulthood (Mathews et al., 2013).

There is a significant transition of social relationships attributed to the developmental needs. The children's relationship with the family entails the majority of social relationships; since association with the parents offers safety and guidance while meeting the developmental needs (Arnett, 2014). The family and parents are at the time engaged in assisting the children to develop and grow that can strengthen the relationship. Parental relationships are critical, but

also, peer relationships offer the children opportunities of developing skills like teamwork, personal growth and establishing meaningful relationships (Mathews et al., 2013). Sibling and peer associations offer early opportunities for interacting with other teenagers (Shaffer & Kipp, 2013). Nonetheless, when children enter the adolescent period, they develop a wide range of physical change increasing their autonomy and new psychological stressors like peer acceptance worries, romantic relationships, and academic accomplishment expectations. The AYAs spend significant time in isolation from the family and school activities. As this takes place, the needs of adolescents and expectations are likely to shift. They start to develop stronger peer relationship, and the mutual emotional support can aid the adolescent to navigate the multifaceted psychological stressors (Shaffer & Kipp, 2013). Due to the changes and challenges during adolescence and the increased exposures to friends and peers, social support becomes very vital for socialization and development purposes (Shaffer & Kipp, 2013).

2.2 Impact of Cancer on Adolescents and young Adults

While many believe the diagnosis of cancer followed by treatment can drastically influence a person's life in any development phase, due to the psychosocial and biological intricacy of adolescence, cancer significantly minimises the quality of life of the adolescents (Brimeyer, 2012). The diagnosis can limit the young adults and adolescents' self-sufficiency and independence at a time it is needed most for development. Additionally, cancer remarkably influences the psychological development of the adolescent because no school and socialization are leading to a predictable negative response (Stinson et al., 2015). Cancer increases dependency on the parents and family members. As mentioned earlier, adolescence is a period when persons start developing adulthood personalities with increased autonomy. Nonetheless, the onset of a chronic disease like cancer presents significant challenges in accomplishing the development milestones due to confinement and physical inabilities

(DeRouen et al., 2015; Mattsson, 2008). Cancer like any chronic ailment delays the development of some physical features that are important in adolescence (muscle weakness, physical disfigurements, physical inabilities, loss of hair and loss of the limbs). Thus, the adolescents and young adults will have to really on their parents as well as the medical team to achieve various activities (Phipps et al., 2014). They cannot enjoy various activities that they treasure, and they might require help in accomplishing activities of daily living (ADL) (Kavanaugh, 2013). The regressive dependence is one of the significant risk factors for psychological distress. While adolescents who have cancer have reported significant social support from the family members, they also desire to be with friends and peers (Mattsson, 2008). Adolescents feel more accommodated by their peers and can readily disclose their emotional reactions than to the parents (Kavanaugh, 2013).

While teens benefit from peer support, during cancer illness and treatment process, the adolescents and young adults are likely to develop peer relationships challenges (Rodriguez, 2016). Some adolescents who have cancer have reported positive experience regarding support from peers and friends. Nonetheless, other adolescents have adverse changes concerning peer relationships (Phipps et al., 2014). Such changes lead to isolation from their peers. Studies have reported that young adults diagnosed and receiving cancer treatment have a few circles of close friends. The reduction of the quality and number of peer relationships might result in a feeling of isolation as well as lack of normalcy felt before the onset of cancer (DeRouen et al., 2015). In some case, adolescents who do not receive the required support risk psychological distress. A decline in the social functioning of adolescents and young adults during cancer can be attributed to emotional and physical impacts of treatment and time restraints as well as the limited social skills and the poor responsiveness by friends to the diagnosis of cancer (Kavanaugh, 2013).

Adolescent and young adults patients are removed from the social environment to be treated leading to negative emotional and physical impacts. Due to the treatment, hospitalization and outpatient regular check-ups, the young people miss a lot of social opportunities including developing and strengthening social relationships (Rodriguez, 2016). They miss out on age-appropriate social activities during psychosocial changes negatively affecting their development. Also, there are unfortunate social consequences of being absent. While peers might want to involve their close friends, they are unsure of what it means to be diagnosed with cancer. Thus, several emotional reactions arise including the fear of cancer itself, confusion regarding what a sick person needs or the fear of seeing a close friend suffering from cancer (Brimeyer, 2012). While the health peers may be willing to assist the sick adolescent friend, such confusion, and fear restricts their engagements. There is a challenge regarding reintegration to school after successful treatment of cancer. It is the first time the young adults interacts with his peers since diagnosis and social associations might have shifted. Teenagers after undergoing chronic ailment become hesitant of returning to school social attributed to concerns about how their friends will react (Wu et al., 2015).

2.3 Nursing Interventions for psychological wellbeing of Adolescents and young adults suffering from cancer

The psychosocial interventions are very beneficial adjuncts to the physical treatment for adolescents and young adults diagnosed with cancer (Stanton et al., 2013). It has been estimated that about 33 percent of adolescents diagnosed with cancer usually experience psychological distress and approximately 70 percent show some degree of depression or anxiety (Ricon et al., 2017). The excellent interventions include those that focus on the psychosocial and informational needs of the patients. They facilitate emotional expressions that assists in modulating distress while improving the coping capabilities. Assisting people to cope with

ailment through personal interactions as well as empathy is one of the fundamental support that caregivers like nurses need to offer (Stanton et al., 2013). The nurses and other practitioners can use numerous steps to assist an individual cope with the normal stress levels. Additionally, clarifying the diagnosis, treatment strategies, and options as well as the sides and ensuring that the patients comprehend the information is very vital. It is important to recognize that distress among patients is a typical expected reaction and the caregivers need to inform them that transition might escalate the distress (Ricon et al., 2017).

The psychological interventions entail therapeutic communications used to minimise stress, treat depression, enhance the quality of care and quality of life as well as support the cancer patients during diagnosis and treatment up to full recovery (Guo et al., 2013). Research concerning mental health care has stressed on treating mental ailment other than preventing it. Several psychological interventions have been developed to deal with disorders like anxiety and depression (Lehto-Järnstedt, 2000; De Faria, 2014). These interventions include cognitive behavioral therapy, interpersonal therapy and problem-solving therapy as well as precautionary and the early involvement. The psychological well-being stresses on the ideal functioning of people and consists of concepts like meaningful life, mastery, and hope (Hulbert-Williams, Storey & Wilson, 2015). Studies regarding psychological interventions have validated the effectiveness of the positive psychology including setting individual objectives, counting blessing, expressing appreciation, using personal strengths to improve one`s well-being and practicing kindness (Rehse & Pukrop, 2003; Lehto-Järnstedt, 2000).

Caregivers have a role in mobilizing resources and directing patients to the appropriate educational material as well as local resources and considering the management of symptoms (anxiolytics, analgesics, and hypnotics) (De Faria, 2014). Also, building trust is vital to ensuring the continuity of care. Emotional and psychological support needs to be offered

coupled with education regarding cancer, diagnosis and the treatment as well as the expected experiences that impact on the quality of life (Rehse & Pukrop, 2003). Support is believed to offer confidence hence minimising the distress concerning the disease and offering the patient a possibility of thinking through to decide the type of treatment option most appropriate. Psycho-education is an integral component of the cognitive-behavioral interventions (Andritsch, 2017; Kárová, 2015). The cognitive and behavioral interventions are indicated to be among the widely employed amongst the cancer patients. This theory is support for the physical and mental symptoms evident that alter the feelings, behavior, and thoughts of a person (Yang et al., 2014).

The psychotherapeutic techniques for adolescents who have cancer concentrate on coping with cancer and allow a person to deal with issues emerging from the present and the past that can impact on the well-being and coping mechanisms (Hulbert-Williams, Storey & Wilson, 2015). Such approaches focus on engaging the patient in a discussion through which the therapists demonstrate empathy, kindness, and support and employ several clinical methods such as education, psychodynamic and cognitive elements that are supportive in delivering psychotherapy. Once an adolescent is diagnosed with cancer, it is essential that the nurses are aware regarding the type of cancer, interventions, support and interventions for the individual (Yang et al., 2014). Crisis counseling is one of the fundamental responsibility of nursing in educating the patient. The intent of crisis includes rapid regain of equilibrium as well as normal coping capability (Archer, Buxton & Sheffield, 2015). Concerning the cognitive methods of problem-solving as well as the restructuring of the perception, they can be used in crisis counseling. When a patient exhibits acute emotional distress, anguish, rage, yearn to die, disinterest, disbelief and terror, problem-solving helps diminishing the challenges to face the illness more realistically (Kárová, 2015).

Group therapy has been suggested to be a good option for adolescents fighting cancer to aid them to share their fears, feeling and experiences and finding confidants for psychosocial support. Guo et al. (2013) indicate that group therapy improves the quality of life. Another aspect of psychological interventions includes spirituality. Studies have revealed that religion, prayer, and spirituality are significant aspects of the quality of life for adolescents diagnosed with cancer. Since cancer impacts on an individual and the immediate family, family therapy has also been recommended as a crucial issue of assisting the family deal with psychological distress (Rehse & Pukrop, 2003).

3. Theoretical Framework

The Adolescent Resilience Model (ARM) offers a theoretical framework for this study in examining psychological challenges and implementing nursing interventions to enhance their quality of care and quality of life for adolescents and young adults who have cancer. This model is based on the dual ideological viewpoints of lifespan development as well as the meaning-based models (Haase, 2004). Concerning the lifespan development viewpoint, the nursing interventions seek to assess the non-normative and normative influence and the way these occurrences change the development negatively or beneficially. The normative occurrence for adolescents and young adults can include the transitions and puberty changes. On the other hand, normative occurrences entail events like the death of close friends or being diagnosed with a chronic and severe ailment like cancer (Peterson, & Bredow, 2009).

The meaning-based aspects of this model attempt to explore the experiences and conditions associated with a disease through the lenses of a person without any researcher-based assumptions and biases concerning a given ailment and its implications. Thus, it allows one to obtain a sense of meaning related to the adverse events and experiences (Peterson, & Bredow, 2009). The meaning construct is a potential protective interior personal factor comprising of sub-constructs like maintaining faith in the outcome of a particular condition and having a spiritual association with a given belief. People with the ability of deriving meaning from difficult and non-normative occurrences can efficiently experience positive psychological and emotional outcome gaining positive results from an adversative occurrence (Ahern, 2006).

The ARM framework outlines the specific protective issues as well as risk factors that are likely to change the outcome of a AYA' s experience while suffering from cancer (Ahern, 2006). Outcome within this context implies the person`s resiliency levels and the quality of life. In

cancer, resiliency entails the capability of a person to surpass the impacts of cancer leading to increased self-esteem and confidence (Haase, 2004). Based on the assertions of ARM model, quality of life entails the broader sense and overall wellbeing. The protective factors expressed by Haase (2004) include the family support resources, positive coping, family atmosphere, health care resources, social integration and deriving meaning. These elements are found within and outside one`s family. The family is seen to be the primary source of protection from any psychological challenges. The resilient families include those that are cohesive and flexible and allow people to find meaning in life hence better psychosocial outcomes (Peterson, & Bredow, 2009). The family atmosphere entails the communication, perceived support, adaptability, and cohesion in the family utilized to alter the power structures, relationships rules and roles in response to the developmental or situational stress while ensuring effective emotional bonds. For family support, it includes the extent and qualities of the networks within the family as well as resources. In most occasions, the family network comprises of individuals with noteworthy associations to a given nuclear family at a given time (Ahern, 2006). In times of crisis or significant change, the family tends to depend on its network for support. The family resources include personal qualities (education, health, and finances) and materials that contribute towards the prevention or alleviation of stress (Haase, 2004).

Social protective including the healthcare resources and social integration involves the degrees to which persons perceive that their needs for support, feedback and information are satisfied by caregivers and friends (King & Hinds, 2011). Social integration involves the ability of the adolescent to maintain social relationships with the healthy friends and peers and the potentiality of expanding the social network to involve other teenagers with other chronic medical conditions. The adolescents who have cancer often need help in maintaining precancer and healthy relationships with their peers including informing other people regarding their

conditions, dealing with various feelings and keeping in touch with the school activities. Underlying assumptions indicate that adolescents with cancer derive significant benefit from knowing other peers with similar conditions since they can compare and help them in placing their ailment in context or even have role models who offer hope. The health caregivers including nurses also play a significant role in the quality of cancer patients notwithstanding the outcome of the disease (Ahern, 2006).

Also, the ARM framework examines individual risk and defensive coping. These factors entail emotive, evasive and passive coping methods (Peterson, & Bredow, 2009). Coping entails the constant change of behavioral and cognitive efforts to manage a specific internal or external demand that is appraised as taxing and surpassing an individual's resources (Haase, 2004). It is agreed that a person's choice of coping is influenced by the situational factors, personality, and developmental factors. The strategies for coping utilized by the adolescents who have cancer evolve with time and are experientially as well as situational dependent. Studies support several kinds of coping strategies are linked with positive outcomes like the health-related quality of life and well-being (King & Hinds, 2011).

According to ARM, it suggests nursing interventions that target several factors or interventions that target a particular factor specifically. When the ARM targets several factors, it can be beneficial since such interventions are holistic and can maximize the outcomes amongst cancer adolescents. Nonetheless targeting multiple factors can be complicated and costly in terms of implementation. For instance, the Resilience Enhancing Adolescent Profile (REAP) which is a multiple intervention with the goal of strengthening the protective factor of persons of deriving meaning (hope and spirituality), as well as courage and coping (confrontive, supportant and optimistic) (King & Hinds, 2011). REAP also intends to strengthen family protective factors (parenting efficacy and communication) and improve peer and health care givers social

protective factors that are implicit to cancer conditions (Haase, 2004). The second option includes interventions targeting specific concepts of the ARM. The approach can effectively identify the specific element of an intervention that has a high probability of impacting on the outcomes. When factors are targeted more precisely, the nursing interventions will offer information concerning how to enhance or change the specific factors being address like social integration to ensure a better outcome (King & Hinds, 2011). The intent of all interventions includes enhancing the quality of care and life as well as the resiliency of the adolescents.

In the current study, the ARM framework directly and indirect offer guidance. The knowledge of positive concepts like resilience is exceptional in developing effective psychological/psychosocial interventions since the factors can influence positive health outcome like positive coping, perceived social support and hope that are amenable to improvement (Ahern, 2006). The figure beneath presents the ARM framework.

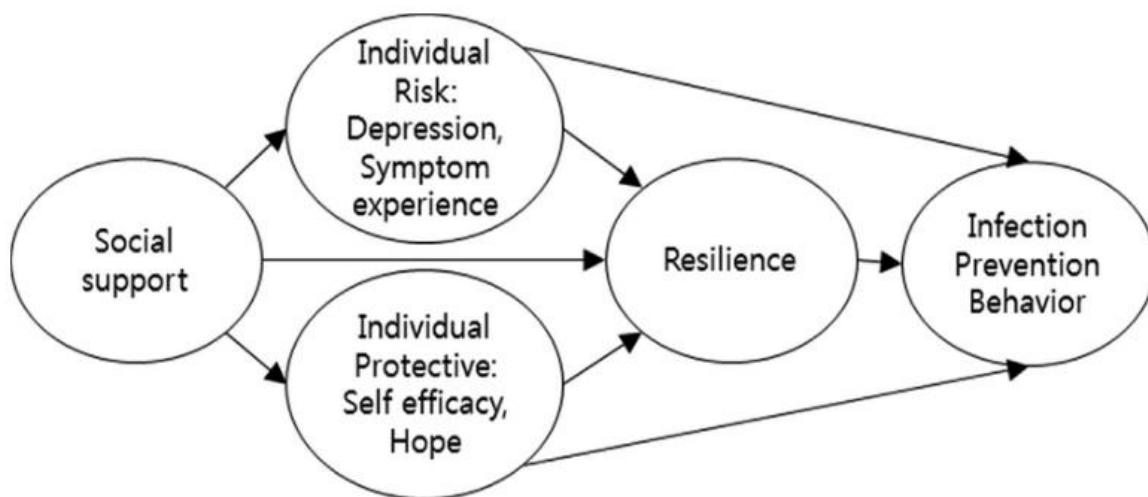


Figure 1: The Framework of Adolescent Resilience Model, source: (Haase, 2004)

ARM is one of the first models to suggest a comprehensive and integrative representation of the processes and outcomes of quality of life and resilience amongst the adolescent with cancer.

It is a theory-driven study program intending to enhance outcome by concentrating on the positive health concepts. It offers significant nursing guidance concerning ways of addressing psychological challenges faced by adolescents who have cancer. Similar to the assertions of Haase (2004) that adolescents depend on social support for a meaningful, the study gained comprehension of the meaning young adults put on social support towards a positive outcome in cancer treatment. The study intended to contribute towards the enhancement of the quality of care and life amongst the teenagers who have cancer, similar to the objective of the ARM model.

4. Aims and Research Questions of the Study

The aim of the study is to examine the psychological challenges that adolescents and young adults (18-24) face in cancer diagnosis and treatment. Further, the study will highlight the appropriate nursing interventions for psychological challenges faced by adolescents diagnosed with cancer. In order to meet the aims of the study the following research questions were posed:

- [1] What are the psychological challenges adolescents experience when faced/diagnosed with cancer?
- [2] What are the nursing intervention for psychological challenges faced by adolescents diagnosed with cancer?

5. Methodology

According to Taylor, Bogdan, and DeVault (2015), a methodology in research entails the processes utilized in collecting information or data for a given objective of making a decision or conclusion. It is a systematic and theoretical examination of the techniques used in a field of study. Typically, a methodology encompasses concepts including paradigm, phases, qualitative or quantitative approach and the theoretical model. The methodology describes the strategies used to carry out the research. It details the methods employed in undertaking the study, the target population, research design and sample population (Taylor, Bogdan & DeVault, 2015). Additionally, the methodology describes the data collection and analysis approaches. The kind of research methodology mainly employed depend on the nature of the study and the research questions.

This study depended on literature review to ascertain the psychological challenges of cancer among the adolescent population and nursing interventions. The process entailed collecting and critically analyzing several research studies and papers (Stewart & Wild, 2017). The intent was to provide a comprehensive and exhaustive summary of the updated literature relevant to the research questions. An operative systematic literature review was considered and use scientific articles which apply to the given topic. Systematic literature review utilizes data gathered by someone other than the researcher using it. Therefore, the information is readily available. The benefits of using journal articles` data include its economic aspects of saving on expenses and efforts of gathering primary data from the field. It helps save time and aid in improving understanding regarding the topic of the study (Stewart & Wild, 2017).

5.1 Data collection

The researcher depended on the database of the Arcada University of Applied Science in retrieving and searching scientific articles. A systematic search for articles relevant to the study was undertaken by employing MEDLINE (through PubMed), the Web of Science, Cochrane as well as the PsycINFO (through OVID). The advantage of employing these databases is that they do not have publication, language or date restrictions. Thus, every database was searched in its entirety. Excluding Web of Science database that does not use a controlled vocabulary and text words was employed in the development of the search strategy of the databases. Research questions were first formulated before the commencement of the research study to determine the articles that are relevant to the study. Additionally exclusion and inclusion criteria were established to increase validity, reliability, and quality of the study. To avoid a costly research, the researcher only utilized articles written in English and accessible without payment.

Three elements were evident during the search including the use of AND operator in linking all the concepts: 1) Cancer patients; 2) psychological challenges; 3) Nursing Interventions, therapies. After integrating these concepts in all the databases, the research established controlled vocabulary as well as keywords that were added during the search by employing the AND operator to ensure a comprehensive study: adolescent, young adults and 18 to 24 years. The use of the filter option of age group limited the results obtained, but it was important since the study was exploring the psychological challenges of adolescents (18-24years) with cancer.

Table 1: Database Searches

Databases	Initial Search	Thorough Search	Relevant Articles
MEDLINE	134	8	3
Web of Science	76	5	2
Cochrane	36	7	1
PsycINFO	36	6	2
Grey Literature	146	10	3
Total	428	36	11

Concerning the inclusion criteria for this study, the studies considered to be eligible for inclusion included studies with the original characterization of psychological challenges among adolescents and the interventions. Only sources that were published from 2000 and 2017 were included in the study. Any source of data published earlier than 2000 was not used even though it offered relevant data to the study. Moreover, subjective articles were not used due to lack of reliability and credibility. Further, articles bearing irrelevant and non-scientific information were not reviewed or employed.

Table 2: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Publications between 2000 to 2017	Articles published before 2000
Language: English	Other languages
Relevant to the study	Irrelevant to the study
Full Articles	Non-full text articles
Title related to the topic of the research	Not related topic

To ensure eligibility, all titles underwent an independent review. Subsequently, every potentially eligible article went through full abstract screening. Also, a full-text review was carried out to verify the articles and for quality assurance. The research completed standardized coding forms for extraction of the predetermined data for every potentially suitable article. The articles were entirely compared to resolve any likely discrepancies and make the final decision concerning what should be included. Moreover, references to the included full-text articles were searched independently to determine whether the article should be included in this study.

Concerning risk-of-bias and study quality, they were evaluated using the modified version known as Quality Checklist by Downs and Black Study (Ross et al., 2011) as shown in the table in the appendix. The articles were assessed and ranked using nine indicators of quality: a) is the aim/hypothesis/objective of the study well expressed?; b) are the outcomes to be measured explained in the Methods or Introduction part?; c) are the attributes of the patients included?; d) are the significant results precisely explained?; e) is the sample representative of the entire population under study?; f) in case any of the findings were based on data searches, was such information made clear?; g) were the primary results measured accurately (reliable and valid)? (Ross et al., 2011). The studies that accomplished high quality were rated between 7 and 9 and were included in the study.

Table 3 presents the articles that were chosen to be reviewed in the current study.

Table 3: List of selected data source

1	Abrams, A. N., Hazen, E. P. and Penson, R. T., 2007. Psychosocial issues in adolescents with cancer. <i>Cancer treatment reviews</i> , 33(7), pp.622-630.
2	Bradford, N. K., and Chan, R. J., 2017. Health promotion and psychological interventions for adolescent and young adult cancer survivors: A systematic literature review. <i>Cancer Treatment Reviews</i> .
3	Drost, F. M., Mols, F., Kaal, S. E. J., Stevens, W. B. C., van der Graaf, W. T. A., Prins, J. B. and Husson, O., 2016. The psychological impact of lymphoma on adolescents and young adults: not a matter of black or white. <i>Journal of Cancer Survivorship</i> , 10(4), pp.726-735.
4	Evan, E. E., and Zeltzer, L. K., 2006. Psychosocial dimensions of cancer in adolescents and young adults. <i>Cancer</i> , 107(S7), pp.1663-1671.
5	Kwak, M., Zebrack, B. J., Meeske, K. A., Embry, L., Aguilar, C., Block, R., Hayes-Lattin, B., Li, Y., Butler, M. and Cole, S., 2013. Trajectories of psychological distress in adolescent and young adult patients with cancer: a 1-year longitudinal study. <i>Journal of clinical oncology</i> , 31(17), pp.2160-2166.
6	Richter, D., Koehler, M., Friedrich, M., Hilgendorf, I., Mehnert, A. and Weißflog, G., 2015. Psychosocial interventions for adolescents and young adult cancer patients: a systematic review and meta-analysis. <i>Critical reviews in oncology/hematology</i> , 95(3), pp.370-386.
7	Seitz, D., Besier, T. and Goldbeck, L., 2009. Psychosocial interventions for adolescent cancer patients: a systematic review of the literature. <i>Psycho-Oncology</i> , 18(7), pp.683-690.
8	Uman, L. S., Chambers, C. T., McGrath, P. J. and Kisely, S., 2008. A systematic review of randomized controlled trials examining psychological interventions for needle-related procedural pain and distress in children and adolescents: An abbreviated Cochrane review. <i>Journal of pediatric psychology</i> , 33(8), pp.842-854.
9	Walker, E., Martins, A., Aldiss, S., Gibson, F. and Taylor, R. M., 2016. Psychosocial interventions for adolescents and young adults diagnosed with cancer during adolescence: a critical review. <i>Journal of adolescent and young adult oncology</i> , 5(4), pp.310-321.
10	Zebrack, B. and Isaacson, S., 2012. Psychosocial care of adolescent and young adult patients with cancer and survivors. <i>Journal of Clinical Oncology</i> , 30(11), pp.1221-1226.
11	Zebrack, B. J., 2011. Psychological, social, and behavioral issues for young adults with cancer. <i>Cancer</i> , 117(S10), pp.2289-2294.
12	Zebrack, B. J., Corbett, V., Embry, L., Aguilar, C., Meeske, K. A., Hayes-Lattin, B., Block, R., Zeman, D. T. and Cole, S., 2014. Psychological distress and unsatisfied need for psychosocial support in adolescent and young adult cancer patients during the first year following diagnosis. <i>Psycho-Oncology</i> , 23(11), pp.1267-1275.

5.2 Data Analysis

Data analysis involves the process of evaluating, cleansing and converting as well as modeling data with the intent of discovering beneficial information that can aid the researcher to suggest a conclusion and make decisions (Miles, Huberman & Saldana, 2013). According to Miles, Huberman, and Saldana (2013), data analysis includes an approach allowing the data collected to be organized to derive useful information. The primary objective of data analysis involves looking at what the data indicates.

This study employed content analysis to analyze the collected data. It entails the approach of examining communication artifacts. Content analysis is a qualitative data analysis approach that offers an efficient work-flow and management of data (Elo et al., 2014). The approach allows systematic reading of texts as well as the artifacts which are subsequently assigned labels or codes to demonstrate the presence of useful, meaningful and interesting patterns (Schreier, 2012).

Content analysis is widely utilized today as a research method with three distinct approaches including the summative, conventional and directed (Vaismoradi, Turunen & Bondas, 2013). These approaches are employed to interpret meaning from some contents of textual data hence adhere to the naturalistic paradigm. The main variations of the three approaches include the origins of codes, trustworthiness and the coding scheme used (Elo et al., 2014). For the conventional content analysis, the coding categories are obtained directly from the textual data. For the directed method, the analysis commences with a theory or some relevant research findings that guide the initial codes. The summative content analysis entails the counting as well as the comparisons by the use of the content and keywords which are followed by the interpretation of the underlying content (Vaismoradi, Turunen & Bondas, 2013). In general, content analysis is both objective and logical. A researcher can draw valid and replicable

inferences from the text with the intent of offering a working and actionable guide, insights as well as knowledge. Schreier (2012) asserts that content analysis is content flexible and sensitive. Nonetheless, Vaismoradi, Turunen, and Bondas (2013) indicate that the approach is not sufficiently qualitative and it is too basic. In contrast, Elo et al. (2014) note that content analysis can be multifaceted or straightforward depending on the way the researcher employs it.

The researcher employed summative content analysis since it is non-obstructive and sensitive to the textual content. Furthermore, the approach is inexpensive and can comfortably accommodate significant volumes of data including analyzing data for a broader range of purposes such as in nursing. However, this approach has some downsides. For instance, manual content analysis can be very laborious and full of mistakes mainly when the content data employed is massive and highly multifaceted (Vaismoradi, Turunen & Bondas, 2013). The researcher ensured sufficient time to collect and analyze the data and especially in establishing the categories.

In the organization of the relevant articles, open coding procedures were employed. Open coding procedure requires more profound comprehension of the content to allow the research determine the crucial words that are relevant to the research questions (Schreier, 2012). Therefore, there was a need for repeatedly rereading the articles while taking worthy notes as well as headings where applicable. After completing the note-taking process, the researcher reread them allowing the listing of significant information that was later re-examined to allow classification of every item in a way that offers appropriate description regarding the information from every class. Categories were evaluated to determine whether there is any linkage between them to allow minor and major listing of themes. Further, the themes were

examined to establish their suitability, meaningfulness, and usefulness and whether information was placed under the right themes.

5.3 Ethical Aspects

It is frequently argued that the utilization of secondary data can relieve the researchers from the burden of ethical aspects (Wolf et al., 2008). Nonetheless, the entire process of research entails ethical consideration. Ethics involves the standards that guide actions, behavior, and conduct. During the entire research, the researcher strived to ensure the compliance to the standards established concerning scientific research by the Arcada University of Applied Science. First, the research identified the topic and sought the guidance of the supervisor. Being a member of the Arcada University of Applied Sciences, the researcher utilized the opportunity and freedom offered to access articles from the databases made available. The use of scientific data in this study has several ethical implications. First, the author ensured the ownership of the original of data is acknowledged. Also, the researcher avoided quoting information directly from the relevant scientific articles without referencing the work correctly and honestly. To evade plagiarism, quotations were paraphrased. Moreover, the researcher focused on the freely available data to avoid any cost and seeking permission or ethical clearance to use the information (Wolf et al., 2008). The collected data was kept safe to avoid unauthorized access, destruction or accidental loss (Wolf et al., 2008).

6. Results

In this section, the researcher presents the categories developed and the data collected in answering the developed research question. The part has been efficiently subdivided to ensure the research questions are answered adequately.

6.1 The Psychological challenges adolescents and young adults experience when faced/diagnosed with cancer

Table 4 details the emerging themes for the psychological challenges faced by adolescents and young adults. The themes are depression, anxiety, intense emotional feelings, obsessive-compulsive disorders, guilt, frustration, social isolation and resentment.

Table 4: Themes/categories for psychological challenges in adolescents and young adults

Themes/ categories	Articles
Depression (dysthymia, seasonal affective disorder and bipolar disorder)	1, 3, 4, 5, 12
Anxiety (fear, sweating, tingling and shaking and scared)	1,4
Intense emotional feelings (rejection, anger, jealousy, anxiety, guilt, and loneliness)	1, 3, 4, 5, 11, 12
Negative image and self-esteem	3, 4, 12
obsessive-compulsive disorder	11
Guilt, grief and resentment	5, 1
Frustration and Social isolation	12

According to the findings, when adolescents are fighting cancer, several psychological challenges arise. Whether during coping with a cancer diagnosis, treatment problems or the distress concerning the recurrence, several emotional challenges face the adults and young adults that are difficult to handle. From the findings, it was evident that the psychological

challenges accompany one another implying that one patient will have several emotional reactions towards cancer diagnose and during the treatment process [1, 3, 4, 5, 11, 12]. Several psychosocial distresses has been reported amongst the adolescents. Decreased social activities, the learning problems, perceived lack of psychological support and behavioral adjustment problems are some of the causes leading to psychological distress. Other issues include the dependency on parents, the alteration of self-image and negative body-image [3, 5]. Additionally, the worry of possible recurrent and long-term side-effects are experienced. Other worries entail relationships, sexual and reproduction issues, career and schooling plans [3, 5].

The adolescent will be flooded with the intense emotional response including intense feeling as they try to hide. The most common emotions include rejection, anger, jealousy, anxiety, guilt, and loneliness [4, 5, 11, 12]. These are part and parcel of dealing with cancer as a life-threatening condition. Nonetheless, the prolonged strong emotions affect the psychological development and in some case, are irreversible. One of the psychological challenges includes the fear that is induced by diagnosis and during the treatment of cancer. Amongst the adolescent diagnosed with cancer, fear arises due to the perceived threat of losing life and hard journey of treatment. There is the fear of the unknown as a result of adverse thinking and worry that originates from anxiety coupled with a sense of apprehension [4, 5, 11, 12].

It was uncovered that adolescent patient suffering from cancer experience anxiety. Some of the evident signs of fear include sweating, tingling and shaking, feeling fearful and scared [1, 4]. Anxiety leads to the patient seeking constant reassurance from the immediate family and caregivers and can lead to breathing difficulties. Another sign of anxiety experienced among adolescent suffering from cancer includes avoiding certain individuals or places. While suffering from cancer, the adolescents will have worry and tension and physical changes like the increase in blood pressure. At a severe stage, anxiety disorder leads to recurring concerns

and thoughts. Other physical signs of anxiety experienced by most adolescent and young adults include dizziness, rapid heartbeat and trembling. While anxiety can be a typical reaction to cancer diagnosis, when it becomes excessive, the patient can dread to daily occurrence including panic attacks that can be triggered by something else. The study of anxiety in cancer patients argues that some adolescents suffer from an obsessive-compulsive disorder that is marked by increased compulsions and persistent intrusive thoughts. In most occasions, anxiety is accompanied by depression among cancer patients [11].

The adolescents and young adults suffering from cancer experience guilt including shame that can paralyze the patients. Cancer brings a feeling of failure and is a recipe for resentment as well as depression. Cancer leads to grief which is a reaction to loss. The loss for the adolescent who has cancer includes the loss of status, loss of friends and the loss of good health. Grief is experienced as a combination of emotional, physical and mental reaction. Guilt and shame are linked to the desire of carrying out their previous duties and love [5, 1].

The majority of the literature reviewed seem to argue that more than 30 percent of Finn's adolescents and young adults suffer from cancer struggle with depression that comes in various forms including dysthymia, seasonal affective disorder and bipolar disorder [3, 4, 5, 12]. depression disorder interferes with the concentration level and motivation among other issues of the daily functioning of a person. Adolescents diagnosed with cancer and are suffering from depression have disrupted sleep, poor appetite, and weight gain/loss. They have persistent feelings of worthlessness, sadness and lack the desire to be involved in any activities even if they previously enjoyed such activities. Some patients experience dysthymic depressive disorder known as dysthymia which is a long-term condition with less severe signs. A small percentage was found to suffer from psychotic and postpartum depression accompanied by cancer [4, 5, 12]. The psychotic depression is very severe, and it includes a break from reality,

delusions, and hallucinations. Bipolar disorder as a form of depression during cancer is not very prevalent, but some reported adolescents and young adults experience cycling mood changes [3]. Other symptoms that accompany depression include irritability, headaches, suicide thoughts, restlessness, fatigue, decreased energy and insomnia. It was reported that adolescents who are off treatment demonstrate higher levels of anxiety as well as depression than adolescents on treatment. The period after treatment is associated with low self-worth, negative body image, and anxiety [1, 4, 5, 12].

Frustration is another common psychological challenge whereby youths are disappointed due to failure to accomplish some personal goals [12]. These goals range from educational/school-activities, relationships, and other obligations. Cancer patients experience isolation and loneliness since they are embarrassed by their condition and want to separate themselves from other people like their peers, the family, and schools. Cancer affects social relationships because a sick teenager will spend significant time alone in hospital, check-up and take-home rest. The fact that one cannot speak to close friends can lead to persistent problems. Some of the reported cases among young people who have cancer include detrimental social relationships, the fear of abandonment, shame and low self-esteem [4, 11]. Social isolation is known to exacerbate the feeling of loneliness and depression among other mental challenges. Thus, social isolation can result in symptoms of mental health. While isolation its cannot be diagnosed, it is indicated to be a symptom of agoraphobia, depression as well as social anxiety. Isolation leads to shutting down, reluctance and numbness as well as an unwillingness to communicate with other people. Primarily, adolescents felt lonely, unimportant and rejected which decreases their self-esteem and self-confidence. Others have reported a strong feeling of sadness and despair due to their psychological and physical pain [4, 11, 12].

In the adolescents and young adults, cancer is known to lead to vulnerability. The adolescents experience an erroneous belief and bias as well as thoughts that predispose them to psychological challenges. Such vulnerability is believed to occur before any psychological challenge or disorder appear. After being diagnosed with cancer, vulnerability will shape the maladaptive responses that result in psychological challenges [3, 12]. Through various cognitive biases, selective mood-congruent will be established over an extended period as after a young person has been diagnosed with cancer or is in the process of treatment [3].

6.2 The nursing intervention for psychological challenges faced by the adolescents and young adults diagnosed with cancer

The table underneath depicts the themes for interventions used for psychological challenges in order to mitigate the psychological challenges. The interventions included behavioural therapy, interpersonal psychotherapy, coping skills therapy, structured counselling, acceptance and commitment therapy and behavioural therapy.

Table 5: Themes for Nursing Interventions

Nursing Intervention Themes/ categories	Articles
Cognitive Behaviour Therapy	2, 6, 9, 10
Interpersonal psychotherapy	7, 10
Acceptance and Commitment Therapy	2, 6, 9, 10
Psychoeducation	7, 8, 10
Structured counseling	2, 8
Coping skills intervention	2, 7, 10
Behavioural Therapy	6, 8, 9

Several nursing interventions have been applied in regard to adolescents suffering of cancer [2, 6, 7, 8, 9, 10]. Majority of studies have examined the use of Cognitive Behaviour Therapy (CBT). CBT involves employs cognitions in influencing the behavior as well as the feelings and subsequently the emotions and behaviors will influence the cognition. The CBT

interventions involve several sessions and patients accomplishing the assigned tasks [2, 6, 9, 10].

The use of interpersonal psychotherapy was common in helping the adolescents deal with cancer psychological challenges [7, 10]. Interpersonal Psychotherapy intends to deal with the communication issues including grief, fear, and isolation. Also, Interpersonal Psychotherapy has been found to be effective in dealing with relationship issues. Studies reported the use of family therapy and family interventions. The therapy involved both the family and adolescent patients seeking to enhance understanding. Another standard therapy used amongst the youth suffering from cancer entails the Acceptance and Commitment Therapy. The Acceptance and Commitment Therapy has also been used among the Adolescent to enhance the quality of life and minimises psychological challenges [2, 6, 9, 10]. The adolescents are offered information and education concerning their conditions to aid them to accept their conditions and other experiences hence effective coping abilities [2, 6, 9, 10].

Psychoeducation has been used to help adolescents facing psychological challenges. The nurses usually offer information concerning the cancer ailment including the meaning of various symptoms including the effects, implications, and causes [7, 8, 10]. Other information that is commonly offered include the medications for cancer, alleviating and aggravating issues as well as the prognosis. Structured counseling is also used as an intervention against psychological challenges [2, 8]. It involves providing information during the hospitalization process to help the adolescents express their emotions, fears and others feeling associated with the diagnosis of cancer. Additionally, structured counseling entails provisioning of information concerning the treatment and an attempt to improve self-esteem as well as interpersonal relationships [8]. The structured counseling takes place in sessions of groups or individuals whereby supportive therapy, education, and emotional elements are delivered. Coping skills

intervention has been utilized, and it involves the training on problem-solving strategies, setting goals, cognitive restructuring, information concerning the hospital, controlling feelings and relaxation training. The coping skills intervention has been reported to improve the adolescents' coping skills especially concerning control of feelings and minimizing anxiety [2, 7, 10].

The use of behavioral therapy amongst the young adults and adolescents is common in patients suffering from cancer. Studies found that behavioral therapy increases the patient's perceived ability to control pain and anxiety. Also, the intervention has been indicated to significantly improve the physical distress, functional ability and the activity level of the adolescents who have cancer [6, 8, 9].

7. Discussion

Psychological distress and challenges in cancer diagnosis and treatment on a continuum scale range from the familiar adjustment challenges to adjustment disorders. Nonetheless, according to the Diagnostic and Statistical Manual of Mental Disorders, most challenges are below the threshold of meeting the diagnostic criteria for mental disorders. The diagnosis of cancer amongst adolescent can be very traumatizing. After finding out of their illnesses, they can initially go through shock and subsequently intensive depression, sleeping disorders, stress, somatic problems, anxiety, the problem of concentrating and irritability. Other psychological challenges include decreased social activities, the learning problem, isolation, sadness, guilt, vulnerability, the alteration of self-image and negative body-image. They experience the fear of the unknown or fear of death. Furthermore, fear can be attributed to the likelihood of recurrence. Concerning anxiety, it is a reaction to the traumatic event of being diagnosed with cancer. In medicine, anxiety is associated with severe and chronic ailment due to stress, side effects of medication and the signs evident in cancer (Brimeyer, 2012).

Cancer leads to grief which is a feeling of loss that can be explained by the fact that the adolescent loses good health after the diagnosis of cancer and other aspects such as socialization and schooling (Stinson et al., 2015). Moreover, it was discovered that cancer leads to depression and a feeling of resentment. While there is no one known causes of depression, it occurs due to a combination of psychological, genetic, environmental and biochemical. Depression is caused by persistent feelings of worthlessness, sadness and lacks the desire to be involved in any activities even if they previously enjoyed such activities (Brimeyer, 2012). The stress experience after diagnosis of cancer can trigger depressive episodes, and in severe cases, depressive episodes can take place with or with no apparent triggers. The psychotic depression can also occur in very severe cases including a break from reality, delusions, and hallucinations.

Frustrations can creep in among adolescent suffering cancer due to the feeling failures and disappointment to achieve set goals in life. Other psychological challenges such as low self-esteem, negative image, isolation, and vulnerabilities can be explained by cancer being a chronic and traumatizing ailment that gives space for psychological distress to take advantage (DeRouen et al., 2015; Mattsson, 2008).

The adolescents face significant challenges since they are in a transition phase from childhood to middle age. The social, emotional, social and cognitive developmental changes that occur during adolescence usually affect views of emotional, problem-solving, interactions, relationships, self, state, and thinking. The adolescents and young adults diagnosed with cancer ailment will need to move through the developmental process while attempting to cope with the emotional and psychological distress of diagnosis. Their life includes time for experimentation, self-discovery, and exploration (Mattsson, 2008). Therefore, being diagnosed with cancer at this at can be very devastating. It means that the time of exploration is replaced by confinement to a health facility or at home while experimentation will be substituted to adherence and compliance with strict healthcare and medical. For self-discovery, it takes place within a setting of fear and anxiety as well as with several medical interventions. According to Guy et al. (2014), the adolescents usually experience severe physical, psychological and emotional distress after being diagnosed with cancer impacting negatively on the survival rate. Their lives are disrupted at a very significant and critical phase of developing an identity which lowers their average survival because of the stigma surrounding their health status (Guy et al., 2014).

7.1 Psychological interventions

Psychological interventions involve any intervention intended for psychological challenges or the social issues but not the biological issues. The interventions can be in the form of a group or

individual. As emphasized by the Adolescent Resilient Model, the nursing interventions deliver social support helping adolescents and young adults to obtain meaning in life and promoting quality of care and life amongst the teenagers who have cancer, similar to the objective of the ARM model. The features of ARM model include acknowledgment, motivation, accomplishment, ability to rise beyond the sickness and the desire to reach out and assist others (Haase, 2004). Adolescent Resilience Model advocates for defensive coping against risks, courageous coping, family protection, social integration (protection), spiritual guidance, and hope-derived meaning (Haase, 2004). All these features are intended to achieve self-transcendence and resilience resolution amongst adolescents who have cancer.

Psychological nursing interventions hold the key towards communicating and engaging adolescents who have cancer. It helps the adolescents and young adults enhance their social skills and problem solving as well as coping abilities and trust. Social support is considered vital to maintaining good mental and physical health (Hulbert-Williams, Storey & Wilson, 2015). Positive nursing interventions offer social support of high quality that can improve resilience to stress, protect one from developing trauma psychopathology, and they decrease functional impacts of trauma-induced challenges like depression as well as minimise mortality and morbidity of cancer. Nursing interventions of psychology are behavioral mediators.

The use of CBT as a nursing therapy for psychological needs of adolescents who have cancer is based on the belief that behavior is learned hence can be altered (Hulbert-Williams, Storey & Wilson, 2015). From the cognitive-behavioral viewpoint, the distress (such as anxiety and depression) related to cancer are due to dysfunctional thinking. When the adolescents are confronted with cancer, they will show maladaptive behavioral reactions and negative mood attributed to irrational cognition (Stanton et al., 2013). This is in line with the Adolescent Resilience Model that argues that cognitive appraisal can result in stress responses. Thus,

modification of cognitive process to more adaptive thoughts can generate adaptive behavioral as well as emotional reactions to stress. Consequently, challenging adolescents' maladaptive thoughts and educating them new problem-solving coping techniques, resilience interventions grounded on CBT can be valuable in promoting the resilience factors such as coping and flexibility. Cognitive Behavioural Therapy therapeutic interventions including cognitive restructuring as well as self-instructional training can aid to replace the dysfunctional thoughts with beneficial cognitions that alleviate the emotions, thoughts and behavior problems (Stanton et al., 2013).

The use of Interpersonal Therapy by nursing in dealing with the psychological challenges of cancer in adolescence is based on the belief that psychosocial issues are interconnected (Ricon et al., 2017). Thus, Interpersonal Therapy intends to help the adolescent comprehend that their psychosocial challenges, how they cause distress and the risk they put them at. Interpersonal Psychotherapy explores personal expectations and perceptions regarding relationships and intends to enhance communications as well as interpersonal skills hence effective coping with cancer. Moreover, the Interpersonal Therapy is based on similar assumptions of Adolescent Resilience model indicating that protective factors expressed family support resources, positive coping, family atmosphere, health care resources, social integration and deriving meaning can boost positive psychological outcomes for adolescents suffering from emotional challenges. The family is seen to be the primary source of protection from any psychological challenges.

The Acceptance and Commitment Therapy (ACT), it is based on the principles of language and cognition called the relational framework (Guo et al., 2013). The ACT intends to improve acceptance of the cancer diagnosis and treatment experiences hence effective coping. ACT also helps the teenagers accept the distressing beliefs, feelings, and thoughts to foster behavior change leading to quality of care and quality of life after cancer diagnosis. The fundamental

principle of the ACT is to control the unwanted experiences such as anxiety and depression that are counterproductive. ACT is classified as a third-wave intervention, and it is recommended due to the frequently changing demands of the cancer persons. The use of psychoeducation as a psychological intervention is standard, and it focuses on offering information concerning cancer diagnosis (Ricon et al., 2017). As advanced by the ARM framework's protective factors, psychoeducation is important in helping the adolescents who have cancer to understand the ailment to live a more productive life. According to the ARM framework, in times of crisis or significant change, the family tends to depend on its network for support. The family resources include personal qualities (education, health, and finances) and materials that contribute towards the prevention or alleviation of stress (Haase, 2004). Therefore, education delivered in psychoeducation therapy can be resourcefully in boosting protection of the adolescents and young adults against the psychological challenges experienced in cancer.

For the structured counseling intervention, it offers eight components: relaxation training, causes of cancer and effects of the treatment process, body image, communication difficulties, exercise patterns, sexuality, coping with uncertainty and fears and good dietary (Ricon et al., 2017). The intent is to minimise psychological distress especially fear, anxiety, depression, and guilt due to the diagnosis of cancer. Counselling is vital in social protection since it promote social integration. Coping skills intervention is based on the foundation that offering knowledge can help a person efficiently cope with the challenges and experiences of suffering from cancer (Guo et al., 2013). The intervention entails offering behavioral, cognitive and practical coping skills including goal setting, role-playing, homework assignment, and self-monitoring. The coping skills intervention when carried out in a group environment can offer adolescents a platform for freely discussing with their peers who are sick concerning their

problems and how to cope with cancer. In line with the ARM model, coping skills intervention provides protective factors. Coping is perceived by the ARM framework to be constant change of behavioral and cognitive efforts to manage a specific internal or external demand that is appraised as taxing and surpassing an individual's resources (Haase, 2004). It is agreed that a person's choice of coping is influenced by the situational factors, personality, and developmental factors. The strategies for coping utilized by the adolescents who have cancer evolve with time and are experientially as well as situational dependent.

Another significant intervention involved is the behavioral therapy. The intervention depends on the assertion that behavior is linked to psychological challenges developing during cancer diagnosis. It is based on classical conditioning and the strengthening of punishments and rewards to change a behavior. The intent is to minimize negative thoughts and feelings or helping the adolescent cope with them effectively during cancer. Behavioural therapy attempts to alter one's behaviour in order to advance protective factors in dealing with cancer. From the findings, the use of various interventions seems to have remarkable improvement in the quality of life as well as mental health. The more extended interventions have been found to be better in ensuring the positive psychological outcome.

8. Conclusion and Recommendations

Cancer is a significant public health challenge throughout the universe, and the burdens associated with cancer continue to increase. Being diagnosed with cancer followed by treatment usually put a person at a risk of emotional, psychological and social challenges. The psychological challenges are multifactorial and unpleasant emotional experiences of emotional behavioral, cognitive, spiritual and social; they interfere with a person's coping ability with cancer with the treatment and physical symptoms. Such experiences minimise the quality of care as well as the quality of life for cancer patients thus an increased mortality. The psychological challenges can be acutely exacerbated during the adolescence development phase marked by social, biological and psychological adaptations and adjustments. The study intended to examine the psychological challenges faced by adolescents (aged between 18 and 24 years) during cancer diagnoses and treatment process. The study also sought to explore the nursing interventions for the psychological challenges. The research employed systematic review that examined relevant scientific journal articles. Data was analyzed through content analysis of data.

The findings from the study reveal that when adolescents are fighting cancer, several psychological challenges arise. Whether during coping with a cancer diagnosis, treatment problems or the distress concerning the recurrence, several emotional challenges face the adolescents and young adults that are difficult to handle. The common challenges include anxiety, intense emotional feelings, obsessive-compulsive disorders, guilt, frustration, social isolation and resentment. These challenges are caused by the stressful and traumatic events of being diagnosed with cancer that the treatment including seclusion, decreased social activities, the learning problems, perceived lack of psychological support and behavioral adjustment problems. Other issues include the dependency on parents, the alteration of self-image and

negative body-image. Additionally, the worry of possible recurrent and long-term side-effects are experienced. Other worries entail relationships, sexual and reproduction issues, career and schooling plans.

The most common emotions include rejection, anger, jealousy, anxiety, guilt, and loneliness. These are part and parcel of dealing with cancer as a life-threatening condition. Nonetheless, the prolonged strong emotions affect the psychological development and in some case, are irreversible. After finding out of their illnesses, they can initially go through shock and subsequently intensive depression, sleeping disorders, stress, somatic problems, anxiety, the problem of concentrating and irritability. Other psychological challenges include decreased social activities, the learning problem, isolation, sadness, fear, guilt, vulnerability, the alteration of self-image and negative body-image, persistent feelings of worthlessness, sadness, anxiety, and depression. The challenges can be accompanied by disrupted sleep, poor appetite and weight gain/loss, frustration, disappointment, low self-esteem and others.

Several nursing interventions have been applied in regard to adolescents and young adults suffering from cancer including behavioural therapy, interpersonal psychotherapy, coping skills therapy, structured counselling, acceptance and commitment therapy and behavioural therapy. Majority of studies have examined the use of Cognitive Behaviour Therapy (CBT). Interpersonal Psychotherapy is also used in dealing with relationship issues and to boost social integration. Another standard therapy used amongst the youth suffering from cancer entails the Acceptance and Commitment Therapy. Additionally, Psychoeducation has been used to help adolescents facing psychological challenges by offering information concerning the cancer ailment including the meaning of various symptoms including the effects, implications, and causes. Other notable nursing interventions include structured counseling, Coping skills intervention, and behavioral therapy is standard.

Psychological nursing intervention aid in communicating and engaging adolescents who have cancer. It helps the young adults enhance their social skills and problem solving as well as coping abilities and trust. The interventions offer social support significant in maintaining good mental and physical health. The overall intent of the nursing interventions is to improve resilience to stress, protect one from developing trauma psychopathology and they decrease functional impacts of trauma-induced challenges like depression as well as minimise mortality and morbidity of cancer.

8.1 Recommendations

This study had some limitations and strengths. The use of systematic literature review approach allowed the research to comprehensively analyse views of various scholars concerning the psychological challenges and interventions for young adults and adolescents suffering from cancer. Thus the study provides significant findings and information, to comprehensively establish the psychological challenges faced by the young adults and adolescents. This study can aid stakeholders, and policymakers make robust and informed decisions concerning the adolescents and young adults suffering from cancer including the mental health. Nonetheless, the findings from the study might be outdated due to use of secondary data. Therefore, it is important to undertake a primary data focusing on the young adults and adolescents. Such study should be more extensive and consider an array of challenges and intervention. Moreover, future studies should focus on establishing the effectiveness of various nursing intervention utilized amongst the adolescents faced with psychological challenges during cancer.

References

- Abrams, A.N., Hazen, E.P. and Penson, R.T., 2001. Psychosocial issues in adolescents with cancer. *Cancer treatment reviews*, 33(7). pp.622-630
- Ahern, N. R., 2006. Adolescent resilience: An evolutionary concept analysis. *Journal of pediatric nursing*, 21(3), pp.175-185.
- Andritsch, E., 2017, August. Associations between psychological interventions with focus on neuroendocrine parameters in cancer patients. In *Psycho-Oncology* (Vol. 26, pp. 76-76). 111 River St, Hoboken 07030-5774, NJ USA: Wiley.
- Archer, S., Buxton, S. and Sheffield, D., 2015. The effect of creative psychological interventions on psychological outcomes for adult cancer patients: a systematic review of randomized controlled trials. *Psycho-Oncology*, 24(1), pp.1-10.
- Arnett, J. J., 2014. *Adolescence and emerging adulthood*. Boston, MA: Pearson.
- Bradford, N. K., and Chan, R. J., 2017. Health promotion and psychological interventions for adolescent and young adult cancer survivors: A systematic literature review. *Cancer Treatment Reviews*.
- Brimeyer, C., 2012. *The adolescent with cancer's school re-entry experience: Exploration of predictors and successful outcomes*. The University of Iowa.
- Cho, D., 2016. Health Behaviors Changes from Adolescence to Emerging Adulthood: A Multilevel Modeling Perspective.
- Crockett, L. J., 2014. *Pathways through adolescence: Individual development in relation to social contexts*. Psychology Press.
- De Faria, L., 2014. The Nurse's Role in the Psychosocial Support for Women Diagnosed with Breast Cancer.

- DeRouen, M. C., Smith, A. W., Tao, L., Bellizzi, K. M., Lynch, C. F., Parsons, H. M., Kent, E. E. and Keegan, T. H., 2015. Cancer-related information needs and cancer's impact on control over life influence health-related quality of life among adolescents and young adults with cancer. *Psycho-Oncology*, 24(9), pp.1104-1115.
- Drost, F. M., Mols, F., Kaal, S. E. J., Stevens, W. B. C., van der Graaf, W. T. A., Prins, J. B. and Husson, O., 2016. The psychological impact of lymphoma on adolescents and young adults: not a matter of black or white. *Journal of Cancer Survivorship*, 10(4), pp.726-735.
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K. and Kyngäs, H., 2014. Qualitative content analysis: A focus on trustworthiness. *Sage Open*, 4(1), p.2158244014522633.
- Evan, E. E., and Zeltzer, L. K., 2006. Psychosocial dimensions of cancer in adolescents and young adults. *Cancer*, 107(S7), pp.1663-1671.
- Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., Parkin, D. M., Forman, D. and Bray, F., 2015. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *International journal of cancer*, 136(5).
- Guo, Z., Tang, H. Y., Li, H., Tan, S. K., Feng, K. H., Huang, Y. C., Bu, Q. and Jiang, W., 2013. The benefits of psychosocial interventions for cancer patients undergoing radiotherapy. *Health and Quality of Life Outcomes*, 11(1), p.121.
- Guy Jr, G. P., Yabroff, K. R., Ekwueme, D. U., Smith, A. W., Dowling, E. C., Rechis, R., Nutt, S. and Richardson, L. C., 2014. Estimating the health and economic burden of cancer among those diagnosed as adolescents and young adults. *Health Affairs*, 33(6), pp.1024-1031.

- Haase, J. E., 2004. The adolescent resilience model as a guide to interventions. *Journal of Pediatric Oncology Nursing*, 21(5), pp.289-299.
- Hartmann, L. C., Loprinzi, C. L., and Mayo Clinic. 2012. *The Mayo Clinic breast cancer book*. Intercourse, PA: Good Books.
- Hulbert-Williams, N. J., Storey, L., and Wilson, K. G., 2015. Psychological interventions for patients with cancer: psychological flexibility and the potential utility of Acceptance and Commitment Therapy. *European journal of cancer care*, 24(1), pp.15-27.
- Husson, O. and Zebrack, B. J., 2017. Perceived impact of cancer among adolescents and young adults: Relationship with health-related quality of life and distress. *Psycho-oncology*, 26(9), pp.1307-1315.
- Kárová, Š., 2015. *Psychosocial needs and quality of life of healthy siblings of pediatric oncology patients* (Doctoral dissertation, Masarykova Univerzita, Lékařská fakulta).
- Kavanaugh, B., 2013. *Examining the Experience of Peer Relationships in Adolescents with Cancer* (Doctoral dissertation, Antioch University).
- Kero, A. E., Madanat-Harjuoja, L. M., Järvelä, L. S., Malila, N., Matomäki, J. and Lähteenmäki, P. M., 2016. Cardiovascular medication after cancer at a young age in Finland: A nationwide registry linkage study. *International journal of cancer*, 139(3), pp.683-690.
- King, C. R., and Hinds, P. S., 2011. *Quality of life: from nursing and patient perspectives*. Jones & Bartlett Publishers.
- Kwak, M., Zebrack, B. J., Meeske, K. A., Embry, L., Aguilar, C., Block, R., Hayes-Lattin, B., Li, Y., Butler, M. and Cole, S., 2013. Trajectories of psychological distress in adolescent and young adult patients with cancer: a 1-year longitudinal study. *Journal of clinical oncology*, 31(17), pp.2160-2166.

- Lehto-Järnstedt, U.S., 2000. *Social support and psychological stress processes in the early phase of cancer*. Tampere University Press.
- Mathews, J. D., Forsythe, A. V., Brady, Z., Butler, M. W., Goergen, S. K., Byrnes, G. B., Giles, G. G., Wallace, A. B., Anderson, P. R., Guiver, T. A. and McGale, P., 2013. Cancer risk in 680 000 people exposed to computed tomography scans in childhood or adolescence: data linkage study of 11 million Australians. *BMJ*, 346, p. f2360.
- Mattsson, E., 2008. *Cancer during adolescence: psychosocial consequences and methodological issues* (Doctoral dissertation, Acta Universitatis Upsaliensis).
- Miles, M. B., Huberman, A. M. and Saldana, J., 2013. *Qualitative data analysis*. Sage.
- Miller, K. D., Siegel, R. L., Lin, C. C., Mariotto, A. B., Kramer, J. L., Rowland, J. H., Stein, K. D., Alteri, R. and Jemal, A., 2016. Cancer treatment and survivorship statistics, 2016. *CA: a cancer journal for clinicians*, 66(4), pp.271-289.
- Peterson, S. J., & Bredow, T. S. (2009). *Middle range theories: Application to nursing research*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
- Phipps, S., Klosky, J.L., Long, A., Hudson, M.M., Huang, Q., Zhang, H. and Noll, R.B., 2014. Posttraumatic stress and psychological growth in children with cancer: Has the traumatic impact of cancer been overestimated? *Journal of Clinical Oncology*, 32(7), pp.641-646.
- Rehse, B. and Pukrop, R., 2003. Effects of psychosocial interventions on quality of life in adult cancer patients: a meta-analysis of 37 published controlled outcome studies. *Patient education and counseling*, 50(2), pp.179-186.
- Richter, D., Koehler, M., Friedrich, M., Hilgendorf, I., Mehnert, A. and Weißflog, G., 2015. Psychosocial interventions for adolescents and young adult cancer patients: a systematic review and meta-analysis. *Critical reviews in oncology/hematology*, 95(3), pp.370-386.
- Ricon, I., Hanalis-Miller, T., Haldar, R., Cole, S., Sharon, E., Jacoby, R. and Ben-Eliyahu, S., 2017. Psychological and/or pharmacological short perioperative interventions to reduce

- cancer recurrence: A planned randomized clinical trial in breast cancer patients. *Brain, Behavior, and Immunity*, 66, p. e15.
- Rodriguez, L., 2016. *Understanding adolescent adjustment to maternal cancer: a study of personal experiences and psychosocial factors that promote adjustment* (Doctoral dissertation).
- Ross, L. E., Grigoriadis, S., Mamisashvili, L., Koren, G., Steiner, M., Dennis, C. L., Cheung, A. and Mousmanis, P., 2011. Quality assessment of observational studies in psychiatry: an example from perinatal psychiatric research. *International journal of methods in psychiatric research*, 20(4), pp.224-234.
- Schreier, M., 2012. *Qualitative content analysis in practice*. Sage Publications.
- Seitz, D., Besier, T. and Goldbeck, L., 2009. Psychosocial interventions for adolescent cancer patients: a systematic review of the literature. *Psycho-Oncology*, 18(7), pp.683-690.
- Shaffer, D. R., and Kipp, K., 2013. *Developmental psychology: Childhood and adolescence*. Cengage Learning.
- Siegel, R. L., Miller, K.D. and Jemal, A., 2016. Cancer statistics, 2016. *CA: a cancer journal for clinicians*, 66(1), pp.7-30.
- Silverstein, A., Silverstein, V. B., and Nunn, L. S. 2004. *Cancer: Conquering a deadly disease*. Brookfield, Conn: Twenty-First Century Books.
- Stanton, A. L., Luecken, L. J., MacKinnon, D. P. and Thompson, E. H., 2013. Mechanisms in psychosocial interventions for adults living with cancer: an opportunity for integration of theory, research, and practice. *Journal of consulting and clinical psychology*, 81(2), p.318.
- Stewart, B. W. K. P., and Wild, C. P., 2017. World cancer report 2014. *Health*.

- Stinson, J. N., Jibb, L. A., Greenberg, M., Barrera, M., Luca, S., White, M.E. and Gupta, A., 2015. A qualitative study of the impact of cancer on romantic relationships, sexual relationships, and fertility: Perspectives of Canadian adolescents and parents during and after treatment. *Journal of adolescent and young adult oncology*, 4(2), pp.84-90.
- Taylor, S. J., Bogdan, R. and DeVault, M., 2015. *Introduction to qualitative research methods: A guidebook and resource*. John Wiley & Sons.
- Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J. and Jemal, A., 2015. Global cancer statistics, 2012. *CA: a cancer journal for clinicians*, 65(2), pp.87-108.
- Uman, L. S., Chambers, C. T., McGrath, P. J. and Kisely, S., 2008. A systematic review of randomized controlled trials examining psychological interventions for needle-related procedural pain and distress in children and adolescents: An abbreviated Cochrane review. *Journal of pediatric psychology*, 33(8), pp.842-854.
- Vaismoradi, M., Turunen, H., and Bondas, T., 2013. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health sciences*, 15(3), pp.398-405.
- Virtanen, A., Anttila, A., Luostarinen, T., Malila, N. and Nieminen, P., 2015. Improving cervical cancer screening attendance in Finland. *International journal of cancer*, 136(6).
- Walker, E., Martins, A., Aldiss, S., Gibson, F. and Taylor, R. M., 2016. Psychosocial interventions for adolescents and young adults diagnosed with cancer during adolescence: a critical review. *Journal of adolescent and young adult oncology*, 5(4), pp.310-321.
- Wolf, S.M., Lawrenz, F.P., Nelson, C.A., Kahn, J.P., Cho, M.K., Clayton, E.W., Fletcher, J.G., Georgieff, M.K., Hammerschmidt, D., Hudson, K. and Illes, J., 2008. Managing

- incidental findings in human subjects research: analysis and recommendations. *The Journal of law, medicine & ethics*, 36(2), pp.219-248.
- Wu, X. C., Prasad, P. K., Landry, I., Harlan, L. C., Parsons, H. M., Lynch, C. F., Smith, A. W., Hamilton, A. S., and Keegan, T. H., 2015. Impact of the AYA HOPE comorbidity index on assessing health care service needs and health status among adolescents and young adults with cancer. *Cancer Epidemiology and Prevention Biomarkers*.
- Yang, Y. L., Sui, G. Y., Liu, G. C., Huang, D. S., Wang, S. M. and Wang, L., 2014. The effects of psychological interventions on depression and anxiety among Chinese adults with cancer: a meta-analysis of randomized controlled studies. *BMC cancer*, 14(1), p.956.
- Zebrack, B. and Isaacson, S., 2012. Psychosocial care of adolescent and young adult patients with cancer and survivors. *Journal of Clinical Oncology*, 30(11), pp.1221-1226.
- Zebrack, B. J., 2011. Psychological, social, and behavioral issues for young adults with cancer. *Cancer*, 117(S10), pp.2289-2294.
- Zebrack, B. J., Corbett, V., Embry, L., Aguilar, C., Meeske, K.A., Hayes-Lattin, B., Block, R., Zeman, D. T. and Cole, S., 2014. Psychological distress and unsatisfied need for psychosocial support in adolescent and young adult cancer patients during the first year following diagnosis. *Psycho-Oncology*, 23(11), pp.1267-1275.

Apendices

Table 6: Evaluation of the risk-of-bias and article quality using the modified version of Quality Checklist by Downs and Black Study

	Aims articulated	Objectives	Outcomes explained	Patients attributed	significant results	Representative Sample	Data Search	Accurate measuring of results	Valid and reliability
1	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓	✓	✓	
3	✓	✓	✓	X	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓		✓	✓	✓
5	✓	✓	✓	✓	✓	x	✓	✓	✓
6	✓	✓	✓	X	✓	X	✓	✓	✓
7	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓	X	✓	✓	✓
9	✓	✓	✓	✓	✓	X	✓	✓	✓
10	✓	✓	✓		✓			✓	✓
11.	✓	X	✓	✓	✓	X	✓	✓	✓