

**T.C.**  
**BAHCESEHIR UNIVERSITY**  
**GRADUATE SCHOOL**  
**PYSCHOLOGICAL COUNSELING AND GUIDANCE HEAD OF THE**  
**DEPARTMENT**

**MENTAL HEALTH CONTINUUM OF CANCER PATIENT'S**  
**CAREGIVERS: RESILIENCE, TRANSFORMATIVE POWER OF**  
**SUFFERING, AND HOPE**



**MASTER'S THESIS**  
**ELİF YAĞMUR BURSALIOĞLU**

**ISTANBUL 2024**

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**ISTANBUL 2024**



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**MASTER THESIS APPROVAL FORM**

|                                    |                                                                                                                          |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Program Name:</b>               | GUIDANCE AND PSYCHOLOGICAL<br>COUNSELING (WITH THESIS, EN)                                                               |
| <b>Student's Name and Surname:</b> | ELİF YAĞMUR BURSALIOĞLU                                                                                                  |
| <b>Name Of The Thesis:</b>         | MENTAL HEALTH CONTINUUM OF CANCER<br>PATIENT'S CAREGIVERS: RESILIENCE,<br>TRANSFORMATIVE POWER OF SUFFERING,<br>AND HOPE |
| <b>Thesis Defense Date:</b>        | 11.01.2024                                                                                                               |

This thesis has been approved by the Graduate School which has fulfilled the necessary conditions as Master thesis.

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## ABSTRACT

### MENTAL HEALTH CONTINUUM OF CANCER PATIENT'S CAREGIVERS: RESILIENCE, TRANSFORMATIVE POWER OF SUFFERING, AND HOPE

Elif Yağmur Bursalıoğlu

Master's Program in Psychological Counseling and Guidance

Supervisor: Prof. Dr. Berna Güloğlu

January 2024, 83 Pages

The aim of the present study was to investigate predictive role of socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope on mental health continuum of caregivers of cancer patients. The sample involved 119 participants (92 females and 27 males) who were caregivers of early-stage cancer patients who were diagnosed with cancer in last five years without metastasis. In data collection part, Demographic Information Form, Mental Health Continuum Scale-Short Form (MHCS-SF), Brief Resilience Scale (BRS), Transformative Power of Suffering Scale (TPSS), and Dispositional Hope Scale (DHS) were used. Pearson Correlation, and Hierarchical Regression Analysis were used to test scales of MHCS-SF, BRS, TPSS, and DHS. The findings of the study revealed that being spouse of the patient negatively, not needing for psychological help and living separately with the patient positively predicted mental health continuum while resilience, transformative power of suffering and hope also had a predictive role on mental health continuum. On the other hand, there were no predictive role of age, gender, being partner, being child, being parent, cancer stage, treatment duration, receiving psychological help or not on mental health continuum.

**Keywords:** Cancer Patients' Caregivers, Mental Health Continuum, Resilience, Transformative Power of Suffering, Hope



## ÖZ

### KANSER HASTALARININ YAKINLARININ RUH SAĞLIĞI SÜREKLİLİĞİ: PSİKOLOJİK SAĞLAMLIK, ACININ DÖNÜŞTÜRÜCÜ GÜCÜ VE UMUT

Elif Yağmur Bursalıoğlu

Psikolojik Danışmanlık ve Rehberlik Yüksek Lisans Programı

Tez Danışmanı: Prof. Dr. Berna Güloğlu

Ocak 2024, 83 Sayfa

Kanser hastası yakınlarında sosyo-demografik değişkenler (yaş, cinsiyet, yakınlık derecesi, yaşama durumu (hastayla ya da değil), kanser değişkenleri (tanı alma zamanı, kanser evresi), ruh sağlığı durumu (tanıdan sonra yardım alma, yardıma ihtiyaç duyma)), psikolojik sağlamlık, acının dönüştürücü gücü ve umut ruh sağlığı sürekliliğinin yordayıcı rolünü anlamak için bu çalışma gerçekleştirilmiştir. Çalışmanın örneklemini erken dönem kanser hastası olup metastaz yapmayan ve son beş yıl içinde tanı almış hastaların yetişkin yakınları olan 119 kişi (92 kadın ve 27 erkek) oluşturmaktadır. Verilerin toplanmasında, Demografik Bilgi Formu, Ruh Sağlığı Sürekliliği Ölçeği – Kısa Form (RSSÖ-KF), Kısa Psikolojik Sağlamlık Ölçeği (KPSÖ), Acının Dönüştürücü Gücü Ölçeği (ADGÖ) ve Sürekli Umut Ölçeği (SUÖ) kullanılmıştır. Pearson Korelasyon analizi, hiyerarşik regresyon analizi ölçekleri test etmek için analizlerde kullanılmıştır. Bu araştırma sonuçlarına göre hastanın eşi olmanın ruh sağlığı sürekliliği üzerinde olumsuz, hastayla ayrı yaşamının ve psikolojik desteğe ihtiyaç duymamanın ruh sağlığı sürekliliği üzerinde olumlu yordayıcı bir etkisi olduğu bulunmuştur. Bunun yanında psikolojik sağlamlık, acının dönüştürücü gücü ve umudun kanser hastası yakınlarının ruh sağlığı sürekliliği üzerinde yordayıcı bir etkisi olduğu görülmüştür. Diğer taraftan, yaş, cinsiyet, hastanın partneri, çocuğu ya da ebeveyni olmak, kanser evresi, tedavi süreci ve psikolojik

destek almak ile hasta yakınlarının ruh saęlıęı sreklilięi arasında anlamlı bir iliřkiye rastlanmamıřtır.

**Anahtar Szckler:** Kanser Hastası Yakınları, Ruh Saęlıęı Sreklilięi, Psikolojik Saęamlık, Acının Dnřtrc Gc, Umut



*To my family and all families who lost their loved ones because of cancer,*

*To all families and patients who are still fighting with cancer*



## ACKNOWLEDGEMENTS

First, I want to thank my thesis supervisor Prof. Dr. Berna GÜLOĞLU for her assistance, support, and help. She was always willing to share her attention, wisdom, and knowledge with me. I felt always lucky because of her support, contribution, and encouragements in every step during my writing process.

I want to share my thanks to Dr. Betül TANACIOĞLU AYDIN and Dr. Ezgi ÖZEKE KOCABAŞ for taking their time and accepting to be my jury members.

I want to thank my department fiends for their support, encouragements and sharing their knowledge with me.

Data collection part was the most difficult step of this study. I want to thank especially all the caregivers, patients, families, health workers, associations, administrators of Facebook Cancer Groups that helped me to spread out my study during data collection part. Their patience, courage to share their feelings, generosity to spare time for this study mean a lot to me.

I want to thank my high school counselor, Aysel Terzioğlu for always being there for me during adolescence, believing and supporting me, showing genuine interest and care to me, and being modeling me to see meaning of this job. She helped me to understand that I want to help people. This thesis was written to be a start to reach that aim.

Lastly, I want to thank my beloved partner, Yiğit Erdem and my friends for their patience, support, believing in me when I did not. If you were not there, I could not finish it. Also, I want to thank my family for their belief, their effort, and their support.

It was difficult times for me, which I was writing this thesis. So, congratulations Yağmur, you did it.

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## LIST OF ABBREVIATIONS

|         |                                                       |
|---------|-------------------------------------------------------|
| BRS     | Brief Resilience Scale                                |
| DHP     | Dispositional Hope Scale                              |
| DSM-V   | Diagnostic and Statistical Manual of Mental Disorders |
| MHC     | Mental Health Continuum                               |
| MHCS-SF | Mental Health Continuum Scale Short Form              |
| NCI     | National Cancer Institute                             |
| PTG     | Post-Traumatic Growth                                 |
| PTSD    | Post-Traumatic Stress Disorder                        |
| TPHI    | Turkish Public Health Institution                     |
| TPS     | Transformative Power of Suffering                     |
| TPSS    | Transformative Power of Suffering Scale               |
| TSI     | Turkish Statistical Institute                         |
| WHO     | World Health Organization                             |

## **Chapter 1**

### **Introduction**

#### **1.1 Statement of Problem**

In the last century, cancer took stage as one of the most common and mortal disease that people were dealing with (Sung et. al., 2021). According to World Human Organization (WHO) 2020 statistics, cancer was first or second reasons of the death of people younger than 70 years old in 112 of 180 countries while in the rest of 24 countries, the rank was third or fourth. Global Burden of Disease (GBD, 2019) statistics showed that six million people were dying because of cancer in 1990, the number reached out 10 million people in 2019. In 2020, cancer was the first cause of death in China and other developed countries with the new 20 million recorded cancer case (Xia et. al., 2022). Disability cases records related with cancer was approximately 240 million in 2019. In Turkey, mortality rate due to cancer was almost %20 in 2018 (Turkish Statistical Institute-TSI, 2018). According to Turkish Public Health Institution (TPHI), every 221 people in one hundred thousand people got diagnosed with cancer in 2016.

The idea of “knowing that someday all people are going to die” is a part of human life because human belief system includes the fact of death. However, people live their lives suppressing this fact until they face with a disease (Sherman, Norman, & McSherry (2010). Cancer is a disease that can end with the death of the patient. Although death rates caused by cancer are decreasing compared to 1975 to 2006, it changes depend on the area, gender of the patient, ethnicity of the patient or the type of the cancer (Edwards et. al., 2010; Jemal et. al., 2004). Moreover, due to recent treatment techniques, early interventions, and new types of medicines, survival rates of cancer are increasing in recent years (Miller et. al., 2019). In addition, literature showed that cancer mortality trends were decreasing in Europe regarding changing habits of smoking meaning that low levels of tobacco using (Bertuccio et. al., 2019). Even though survival rates are higher compared to past, cancer does not end with the treatment. Depending on the type and level, possibility of death always stays on the table. In other words, cancer has the possibility of coming back. Hence, caring after cancer treatment and monthly or annual check-ups are difficulties after cancer (Miller,

et. al., 2019). Cancer diagnosis brings that fear of death for the patient or make that fear inevitable.

Cancer was named as a devastating event which is different from traumatic events such as terrorist attacks, natural disasters, or loss of a loved one which experience one time, because it has continuity meaning that cancer was in the past, are in the present, and will be in the future (Hou, Law, & Fielding, 2009). Furthermore, cancer has its own side effects such as decreasing in quality of life due to pain, gastrointestinal problems, and immune system problems (O'Reilly, Mellotte, Ryan, & Connor, 2020). When cancer's psychological, economic, social, and physical effects were considered, cancer is a huge life event which affects not only the patient but also patient's parents, close ones, and primary care givers (Çuhadar, Tanrıverdi, Pehlivan, Kurnaz, & Alkan, 2016, Jassem, Penrod, Goren, & Gilloteau, 2015). In other words, cancer diagnosis is a traumatic event for relatives of cancer patients as much as the patients themselves (Opsomer, DeLepereire, Lauwerier, & Pype, 2020; Opsomer, Lauwerier, DeLepereire, & Pype, 2022).

Since cancer process compels patient psychically, and treatment itself could be backbreaking, cancer patients need care during the process. Especially patients in advanced level, home caring processes increase responsibilities of other family members who share the home and can be a heavy burden to them (Rumpold et. al., 2017). Cancer patients' relatives has different responsibilities such as decision making, seeking health information etc. and all these processes are distressing for caregivers. Therefore, their physical and mental health can be affected by the process (Bevan & Pecchioni, 2008). Caregivers of cancer patients were affected negatively because of the reasons such as emotional distress due to the treatment process, and responsibility of caring, and they were feeling overwhelmed as well as run out of sources which were feeding them emotionally. This influences negatively psychological and physical well-being of caregivers (Northouse, Katapodi, Schafenacker, & Weiss, 2012). The studies which compared patients' caregivers and non-caregiver adults showed that caregivers were dealing with low level of well-being as well as high level of depression and stress (Grov, Dahl, Moum, & Fosså, 2005; Rhee et. al., 2008). Research indicated that emotional distress of caregivers of cancer patients increased after diagnosis, and sometimes it could be permanent (Ell, Nishimoto, Mantell, & Hamovitch, 1988; Given & Given, 1992; Haddad, 1994; Northouse, Templin, Mood, & Oberst, 1998;

Pitceathlya & Maguire, 2003). Furthermore, level of cancer has an important role on mental health of caregivers. Research indicated that caregivers of advanced level patients displayed more stress, having more difficulty in daily life activities, lower psychological and physical well-being compared to initial or earlier stage patients' caregivers (Barnes, 2002; Kershaw et. al., 2015; Northouse et. al., 2007; Weitzner, McMillan, & Jacobsen, 1999).

Cancer has negative impact on psychology of patients' caregivers. Mental health was accepted as a controversial and subjective term meaning that showing symptoms of well-being (Keyes, 2002). It was known that concept of well-being consists of several subdimensions such as physical, psychological, existential, or social (Keyes, Wissing, Potgieter, Temane, Kruger, & Rooy, 2008). Mental health continuum was a range concept which covers well-being factors related with psychology and more positive ones (Demirci & Akin, 2015). The factors which were related with well-being in terms of mental health continuum were psychological and social well-being with high level of functioning. Socializing, finding meaning in life, and daily functioning were some of the indicators of a complete mental health (Keyes, 2002). Research frequently focused on the most visible concept in mental health continuum which was well-being (Joshanloo, & Nosratabadi, 2009; Keyes, 2002; Lamers, Westerhof, Bohlmeijer, Klooster, & Keyes, 2011; Machado, & Bandeira, 2015). A study conducted with patients with glioma (brain cancer) and their caregivers showed that well-being was tried to be repaired after it was challenged both psychologically and existentially with the diagnosis (Cavers, et. al., 2012). Another study conducted with both cancer patients and caregivers yielded that diagnosis and treatment processes lead to serious fatigue as well as sleeping problems (Charalambous, et. al., 2019) which was related with physical well-being.

Resilience is one of the widely investigated concept in psychology for more than 20 years and it takes its shape by age, time, variety of life events, personality characteristic of people (Garmezy, & Rutter, 1985; Rutter, 1985; Seligman, & Csikszentmihalyi, 2000; Werner, & Smith, 1992). Human beings were in the balance of physiological and psychological resources and needs in the beginning, and over time they experience different life events that trigger them with stress or intense feelings which harms this balance (Richardson, 2002). After this interruption, people manage to adapt the new condition or not. If this adaptation skill leads personal growth or some

positive changes in people that makes them better, this was named as resilience (Richardson, 2002). Resilience was described as the power of moving on after a devastating event (Opsomer, Lauwerier, De Lepereire, & Pype, 2022). In addition, resilience was seen an indicator in people that they were successful in coping (Connor, & Davidson, 2003). However, in the cancer treatment process, patients and caregivers still live in the devastating event and accept the process while dealing with the disease and that are trying to higher their well-being levels (Bonanno, 2004; Galatzer-Levy, Huang, & Bonanno, 2018). Resilience of patient and the relatives were affected by different treatments, influence of the treatments, intensity of the treatments, and duration of the treatment (Hou, Law, Yin, & Fu, 2010). The studies which conducted with the relatives of terminal stage cancer patients indicated that resilience became prominent as a protective factor. Opsomer, Lauwerier, De Lepereire, and Pype (2022) claimed that resilience gave caregiver inner strength, it increased personal growth, help caregivers to being mentally healthy in their study with caregivers of advanced cancer patients. Also, resilience and coping mechanism were positively related with each other in this group, when a caregiver resilience level was high, that person keeps going functioning in life and deal with the process more effectively. Moreover, Wong, Greenhalgh and Westhorp (2012) found that resilience helps caregivers to reach out their resources and use them during the advanced cancer treatment process. The study of Dionne-Odom et. al.'s (2021) indicated that when resilience level was high, the capability of being ready for future implications of the treatment increased. In this research, it was also indicated that higher resilience level in caregivers were related with lower anxiety and depression levels. At the end, they suggested that resilience may have a role in stress management process during the treatment period (Dionne-Odom et. al., 2021). In addition to that feeling less depressed, health lifestyle, and social support played a part that resilience came forward as a protective factor (Hwang et. al., 2018; Palacio, Krikorian, & Limonero, 2018; Van Roij, Brom, Sommeijer, Poll-Franse, & Raijmakers, 2021).

Pain is a powerful element, and it changes people. Pain was defined as a mental state that gives disruption to the people and perception of the pain changes depends on the duration meaning that the effect of the pain in the first day of and in the fifth day differs according to the disruption model of suffering (McClelland, 2019). Suffering differs from the change in this point because suffering indicates a continuum

(McClelland, 2019). For example, one person who has pain in terms of mental level, may have difficulty to continue in functioning while one person who suffers can function well in life (McClelland, 2019). Transformative power of suffering means experiencing an unpleasant life incidence and turning it into a positive experience and change in their perspective of life (Cormio, et. al., 2014). Transformative power of suffering which was mentioned in the literature in terms of spiritual context mostly, can be powerful variable in the cancer process that beliefs and hope were extremely effective (Scrutton, 2015). Despite of cultural differences, it was revealed that pain helped people after traumatic events to mature especially in Eastern cultures (Joshani, 2014; Hale-Smith, Park, & Edmondson, 2012). Although transformative power of suffering was not studied on cancer patients' relatives, similar concept which is post traumatic growth (Cormio et.al., 2014) was studied in Italy with the same target group (Cormio et. al., 2014). Cormio et al. (2014) found that cancer patients' caregivers showed higher personal growth after the diagnosis. Moreover, they reported that more time passed, the posttraumatic growth increases due to the adaptation skills. However, transformative power of suffering is different from posttraumatic growth. The difference between them is that posttraumatic growth was related with a trauma or a crisis, while transformative power of suffering was related with a condition. (Saralioğlu, Çiftçi, & Yıldırım, 2021). Moreover, transformative power of suffering was based on more spiritual background compared to the post traumatic growth and it was seen that related literature frequently meant Nietzsche (1955) because of his arguments about benefits from suffering. Joshani (2014) explained its roots to Islamic culture and Muslim's tendency to suffer to reach a better belief and better version of them. Additionally, concept of post traumatic growth was used to express positive outcomes a person develops after facing with a traumatic event. However, transformative power of suffering means a condition that a person still go through (Janoff-Bulman, 1992). It was also mentioned that traumatic events more frequent in today's world, therefore it was needed a concept for experiencing a continuous suffering and gaining from it (Bolat, Bolat, & Taştan, 2020).

Hope is a phenomenon which can be a dealing method or motivation source when a person faces with an obstacle, and it was known as one of the primary feelings when a person diagnosed with a challenging disease such as cancer (Sanatani, Schreier, & Stitt, 2008). Hope was defined as being faithful about future or having a belief to

achieve a goal (Clayton, Butow, Arnold, & Tattersall, 2005; Sanatani, Schreier, & Stitt, 2008). When the subject is patients, hope can gain personal meanings depending on situation or the person (Elliott, & Olver, 2002; Sanatani, Schreier, & Stitt, 2008). Although, hope involves goals, capacity to reach that aim, and finding pathways to reach that aim and it is a realistic phenomenon (Snyder, 1996), in life-threatening illness this realistic part of it can be transformed due to the reason that caregivers continue to carry hopes about being cured even if there is nothing left to do. To be more specific, it was pointed out that most of the cancer patients who cannot be treated, have unrealistic expectation about being cured (Bergqvist & Strang, 2019; Weeks, 2012). There is always hope. A study that conducted with the relatives of patients, reported that their hope grew strongly when the patient was under treatment (Bergqvist & Strang, 2019). Keeping hope alive can be evaluated as a factor that both patients and their caregivers need.

Cancer continues to threat human life and affect whole family system although development and treatment techniques and health. Since the focus group was prioritized as patients in the literature, the need for investigating caregivers needs and current feelings were seen. Therefore, this study aimed to understand cancer patients' caregivers' mental health continuum.

## **1.2 Purpose of the Study**

The aim of the current study was to investigate the predictive role of socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope (both agency components and pathways components) on mental health continuum in caregivers (parents, adult children, partners, and spouses) of cancer patients.

## **1.3. Research Questions**

In this study, questions listed below were investigated.

1. Is there a relationship among socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope (both agency components and pathways components) and mental health continuum in caregivers (parents, adult children, partners, and spouses) of cancer patients.
2. To what extends does socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope (both agency components and pathways components) predict mental health continuum in caregivers (parents, adult children, partners, and spouses) of cancer patients?

#### **1.4. Significance of the Study**

Cancer is a challenging disease that affects families of the patients as well as patients themselves (Opsomer, Lauwerier, DeLepereire, & Pype, 2022; Rumpold et al., 2017) due to the reason that it requires serious care. Therefore, it was explained as a family disease instead of an individual (Sharf & Freimuth, 1993). Literature related with cancer showed that studies were conducted with patients or the caregivers of patients (Jassem, Penrod, Goren, & Gilloteau, 2015), while the focus was predominantly on patients (Lau, Khoo, Hoo, & Tan, 2021).

Caregiving is not only limited with cancer patients but also it was studied in terms of other disease that may require palliative care such as dementia, or Alzheimer (Palacio, Krikorian, & Limonero, 2018). However, when the concept is cancer, caregiving process might be different due to the reason that during the cancer treatment process caregivers mostly need to change a lot of things in their life to cope with this disease that was named as traumatic event (Giannoussi, Karademas, & Dimitraki, 2016; Pinquart, & Sörensen, 2005). However, mental health continuum and resilience were mostly investigated with patients due to the reason that cancer affects primarily and directly the patient (Çuhadar, Tanrıverdi, Pehlivan, Kurnaz, & Alkan, 2016,

Jassem, Penrod, Goren, & Gilloteau, 2015; Lau, Khoo, Hoo, & Tan, 2021; Li, Chiang, Xu, Xu, & Loke, 2015; Park et. al., 2013; Shaw et. al., 2020). Caregivers of patients' well-being and resilience level was investigated when the patient was on the fourth or terminal level of cancer or cancer metastasized (Lau, Khoo, Hoo, & Tan, 2021; Weitzner, McMillan, & Jacobsen, 1999). Moreover, studies related with adult patients' parents were limited because literature focused on partner related research (Grov, Dahl, Moum, & Fosså, 2005; Nissim et. al., 2017). Qualitative research consists of focus group interviews aimed to analyze difficulty of process, change of the relationship between partners, and current situation (Li, Chiang, Xu, Xu, & Loke, 2015; Lauzier et. al., 2005; Schmid-Büchi, Halfens, Dassen, & Van den Borne, 2008). While Li et al. (2015) examined the subject from more general perspective which includes dealing with symptoms, changing in daily life and social support system, Lauzier (2005) investigated the financial aspect of cancer diagnosis as a family concept. For example, Schmid-Büchi, Dassen, and Van den Borne's (2008) study indicated that partners of breast cancer tried to suppress their feelings, move on their life while supporting the patient, and ignore the difficulties. Therefore, this study aimed to investigate protective and risk factors in protecting mental health of caregivers (parents, adult children, partners, and spouses) of cancer patients. Literature, as it was mentioned above, mostly focused on terminal stage patient's caregivers' psychological condition such as depression, anxiety, hope, and resilience (Grov, Dahl, Moum, & Fossa, 2005, Kershaw, Ellis, Yoon, Schafenacker, Katapodi, & Northouse, 2015, Lau, Khoo, Ho, & Tan, 2021). This study was focused on early stages cancer patients' caregivers' mental health continuum, hope, and resilience level while investigated transformative power of suffering in terms of cancer.

Patients and caregivers need of positive emotions due to the reason that cancer is a difficult disease hard to deal with was proved by the studies (Bergqvist & Strang, 2019; Schmid-Büchi, Halfens, Dassen, & Van den Borne, 2008). It was found that studies about positive concepts such as psychological well-being, general well-being, spiritual well-being, and post-traumatic growth recently increasing in literature (Cavers et. al., 2012; Bakker, 2022; Lin & Bauer, 2003). However, these studies were limited with caregivers of patients which intended family caregivers as a whole system and partners. (Cormio et. al., 2014). This study involved parents, partners, spouses, and children of the patients as caregivers. Consequently, this study enlightened the

literature about determining protective factors which contribute caregivers of cancer patients' well-being in a positive way. In this context, the predictive role of resilience, transformative power of suffering and hope on mental health continuum were examined. Besides these studies, more studies are needed to enlighten the mental health continuum of early-stage cancer patients' caregivers due to the reason that advanced cancer patients' caregivers' needs were more visible in the field and studies have already focused on that area. However, early staged patients' caregivers' also struggling with adaptation to the treatment and dealing with its draws and backs.

This study helped participants to realize their psychological needs by assessing their mental health continuum, resilience, transformative power of suffering and hope levels. Cancer treatment is an intense process with a rush and in this process, caregivers tend to prioritize the patients' needs by ignoring theirs (Üzar-Özçetin, & Dursun, 2020). With the help of this study, they had a chance to think about themselves and notice what is going on with themselves.

This study will fill out the place in literature where there was limited information in early-stage patients' caregivers psychological conditions related with positive terms. Especially, transformative power of suffering, and relationship of this concept with mental health continuum, resilience and hope will be seen to use in the future studies because of the reason that this study was one of the priors that investigated positive aspects of cancer treatment process from caregivers' perspectives. This study will reveal the needs of caregivers and give an idea about in which level their mental health is. In cancer treatment process, health workers who were doctors, nurses, psychologists, counselors, etc. will work both with the patient and caregiver. This study may help them to interpret their interaction with them by knowing their mental health continuum, resilience, transformative power of suffering, and hope level. Therefore, mental health practitioners can build intervention programs and provide space to caregivers to express themselves.

## **1.5 Definitions**

*Cancer:* A disease that cells of the body reproduce themselves in an unregulated way and diffuse through other part of body (National Cancer Institute, 2021).

*Mental Health Continuum:* Mental health continuum (MHC) is a clinical approach concept that used to evaluate and categorize a person's mental health in a positive way without accepting mental health no to have psychological disorder (Keyes et. al., 2008).

*Resilience:* Resilience is a widely used term and have several meanings. It can be defined as continue to show healthy functioning psychologically and physiologically after facing with a damaging event such as an accident, loss of loved ones, or mortal disease that can have traumatic effects on one's life and moving on like everything is stable (Bonanno, 2004).

*Transformative Power of Suffering:* Having faith to experience positive change after undergoing a suffering or challenging life event (Joshnloo, 2014).

*Hope:* A consistent, good, and positive feeling consist of "*the perception that something desired may happen*" (Snyder, et. al., 1991, pg. 570).

## Chapter 2

### Literature Review

#### 2.1. Cancer

Cancer diagnosis is a life-changing traumatic event for patient and consequently for the family of the patient because of the reason that this type of disease influences whole family as a system (Edwards, & Clark, 2004). Basically, cancer was defined as cell division in an uncontrolled way with the possibility that these divided cells can spread any part or organ of the body (National Cancer Institute - NCI, 2021). There is no specific place in the body for cancer cell division. Uncontrolled cell division can make cell mass. This mass can be benign (harmless) or malign (aggressive and dangerous) and they were called *tumor* (NCI, 2021). Malign tumors can also be named as cancerous cells. While cancer cells were growing the point that they should not, they can spread out near the place that growing had started or can jump another part of the body which was completely new (NCI, 2021). That process was named as *metastasis* (NCI, 2021).

Cancer can be thought as an umbrella concept which includes over one hundred different types of disease that had been diagnosed (Weinberg, 1996). There were different types of classification in terms of cancer such as place based, or cell type based. Mostly type of the cancer was determined by the body place or where the cancerous cells grew. For example, brain cancer or lung cancer. These classifications were used commonly in public where medical staff were using cell type-based classification such as carcinoma, which is the most common one, sarcoma, leukemia, lymphoma (NCI, 2021). In daily language, the place of cancer naming is used and there are thirteen type of cancer which were common ones: bladder, breast, colon and rectal (colorectal), endometrial (uterine), kidney, leukemia (blood), liver, lung, melanoma (skin), non-Hodgkin lymphoma, pancreatic, prostate and thyroid (Siegel, Miller, Wagle, & Jemal, 2023). Each type of cancer has its own characteristics. Mortality, metastasis risk, effects on life changes are different depend on the type. Some type of the cancer has more risk considering death such as pancreatic (Ilic, & Ilic, 2016), lung, and liver cancer (Hashim, et. al., 2016).

In addition to type, the stage of cancer is another crucial factor when the topic is cancer diagnosis. To determine cancer stage, there are different ways and determination systems. Cancer disease has four stages according to the body part that cancerous cell placed, size of the tumor, whether it spread out or not nearby or other parts of the body (NCI, 2022). Also, related sources mentioned a stage named “0” meaning that there are abnormal cells, called *carcinoma in situ* (CIS), but they are not active. This stage is not accepted as cancer. However, there is a risk to become cancer later. In the first three stage means that abnormal cells are cancer. First stage is for abnormal cells in one part or one organ in the body and the size is small while in stage two and three abnormal cells jumped into nearby areas. The difference between stage two and three is the size of the tumor. According to cancer tumor size and spreading out nearby tissues, numbers increase. Stage four is the highest stage, meaning that cancerous cells spread out other parts of the body (NCI, 2022).

To summarize, cancer was seen as a serious chronic disease that is threatening human life. It increases in number of patients around world and affects people’s life.

**2.1.1 Cancer risk factors.** There is no exact reason to have cancer. However, studies focused on certain risk and protective factors (NCI, 2023). Family history, genetic inheritance, age, behaviors such as smoking, alcohol, obesity might be included as risk factors (NCI, 2015). Firstly, cancer is a genetic disease due to the reason that it was caused by changes in genes (NCI, 2022). Family is the direct source that humans got their genes. Family history which includes cancer diagnosis can be strong indicator and can also affect relatives of cancer patient. For example, breast cancer one of the dangerous types of cancer which can be intergenerational in women (Nicolella & Assis, 2022). When mother got diagnosed with breast cancer, daughters can experience the fear of having breast cancer in future (Lemon, Zapka, & Clemow, 2004).

Secondly, age can be another risk factor for having cancer. For example, some types of cancers were seen in children more frequently such as leukemia, (blood cancer), childhood cardiac (heart) tumors, as well as some types of cancer were only seen in adults such as breast cancer and colorectal cancer (NCI, 2021). In addition, the rate of being prostate cancer in males were found 984.8/100,000 who were aged between 70-74 (Leitzmann & Rohrmann, 2012).

Thirdly, gender is another factor that influence cancer incidence rates. There were some studies which indicated that cancer diagnosis rates were higher in males compared to women (Deverahally et. al., 2003; Dorak & Karpuzoğlu, 2012; Eden et. al., 2000). For example, men experienced lung cancer more than women in Europe (Hashim, et. al., 2016). Moreover, other than breast cancer, gall bladder, anus, and thyroid tumors were found more common in females compared to the men (Cook, et. al., 2009).

In addition, certain types of sexual relationships can be risk factors for some types of cancer. To be clearer, it was stated that sex between men, having multiple sex partners, diagnosed with human immunodeficiency virus (HIV) or human papillomavirus (HPV) were found as high-risk categories for anal cancer (NCI, 2023).

Cancer was explained by its definition and risk factors, in the following part treatment techniques were mentioned to understand better the treatment process that patients and caregivers are going through.

**2.1.2 Treatments techniques.** Cancer is both physically and psychologically difficult, challenging process for the patient. The process starts with symptoms, and continues with diagnose, staging, and treatment. Symptoms might show themselves in different ways depending on the type of the cancer (NCI, 2019). For example, in breast cancer having lumps, nipple changes can be seen, while in bladder cancer, patients can experience urination problems, blood in urine (NCI, 2019). Cancer diagnosis is one of the hardest parts of having cancer because this is the first place that patient and the family face with a serious, mortal disease (Dominguez-Cabello et al. 2012a, 2012b; Teschendorf, et al., 2007). They experience complicated feelings such as shock, anger, sorrow, anxiety, etc. (Hu, Xiao, Peng, Kuang, & He, 2018). Three type of treatment ways were presented in cancer literature which are chemotherapy, radiotherapy, and surgery (Arruebo et al., 2011). Chemotherapy was used to cure advanced cancer such as acute myelogenous leukemia, lung, and ovarian cancer. With its different types, chemotherapy was used both to shrink tumor before surgery or completely get rid of it without surgical intervention. Although sometimes it was not effective, chemotherapy is still one of the most used treatment methods in cancer (Arruebo et al., 2011).

Radiotherapy is another widely used treatment for cancer. Especially in early stages cancer patients, it is known that radiotherapy is effective (Mohan et al., 2019). However, radiotherapy has its own side effects. Mainly, radiation not only targets cancerous cells but also healthy cells nearby the malignant tissue (Barber et al., 2000; Sprung, Chao, Leong, & McKay, 2005). Physiologic side effects change depending on the cancer type. For example, in breast cancer treatment radiotherapy can cause swelling, fatigue, or irritation of the skin (Harris, Lippman, Morrow, & Osborne, 2014) while in head and neck cancer treatment, swallowing difficulty, hair loss or tooth decay (Mohan et al., 2019). In addition, the level of side effects changes the intensity of radiotherapy. For instance, in lung cancer treatment, when the radiation dose increases, shortness of breath, cough, fever can emerge (Gensheimer & Loo, 2017). Moreover, higher dose radiotherapy can lead infertility or early menopause in women (Mohan et al., 2019).

Immunotherapy and targeted cancer therapy are the recent treatment techniques that used for cancer due to decrease the side effects of traditional methods which were chemotherapy and radiotherapy (Baudino, 2015). Immunotherapy works as a last option where the traditional methods are ineffective and the cancer progressed in an aggressive way (Broderick, 2017; Fukumura, Kloepper, Amoozgar, Duda, & Jain, 2018). When the cancer is highly aggressive type such as melanoma and metastases very rapidly immunotherapy can be an option. Although, in clinical trials findings were promising, immunotherapy is still controversial considering its effectiveness (Fukumura, Kloepper, Amoozgar, Duda, & Jain, 2018). Targeted cancer therapy treatment is one of the recent and promising methods which aims to diminish exact cancerous cells rather than disrupting all over the body (Padma, 2015). Targeted cancer therapy mostly preferred with chemotherapy and patients should fulfill some conditions such as genetic conditions, protein types etc. (Padma, 2015). However, it is an expensive method compared to chemotherapy, and takes more time to see its effectiveness (Baudino, 2015).

All the treatment methods have serious common side effects such as nausea, fatigue, eating problems, diarrhea, constipation etc. so that patients have anxiety, damaged daily functioning because of the side effects. Therefore, their quality-of-life decreases (Lang, France, Williams, Humphris, & Wells, 2013). Below, psychological effects of cancer treatment for patient and the close ones were explained in detailed.

**2.1.3 Psychological effects of cancer on patients.** Cancer has its own physiological effects on patients which are visible that mentioned in above. Depression, anxiety, and distress are some of the main psychological consequences of cancer (Groven, Dahl, Moum, & Fosså, 2005; Park et. al., 2013; Stenberg, Ruland, & Miaskowski, 2010). Distress is another concept which is the first and temporary but long-term response after diagnosis (Stein, Syrjala, & Andrykowski, 2004) was described as capturing more than one feeling or psychological respond such as anxiety and depression. A study that was conducted in Germany showed that more than half of the cancer patients were having problems regarding at least one of these two psychological issues (Hinz, et. al., 2010). In addition to these, post-traumatic stress disorder due to the reason that being diagnosed with cancer could be a trauma for the patient and family (Hou, Law, & Fielding, 2009). Moreover, cancer patients were carrying higher risk for the possibility of getting diagnosed with major depression and PTSD (Stein, Syrjala, & Andrykowski, 2004). 32% of cancer survivors were dealing with PTSD due to the reoccurrence of cancer (Kangas, Henry, & Bryant, 2002). Sleep difficulties, death anxiety, and low levels of psychological well-being were other problems that related with cancer diagnosis (Groven, Dahl, Moum, & Fosså, 2005; Rhee et. al., 2008).

Psychological effects of cancer on patient were explained and the size of its effects became clearer. These effects were not only restricted by patient but also enlarged with caregivers. In the next part, its influence on caregivers was explained in detailed.

**2.1.4 Cancer and caregivers.** Cancer is a traumatic event due to the reason that it threatens patient's life and affects caregivers (Opsomer, DeLepereire, Lauwerier, & Pype, 2020; Opsomer, Lauwerier, DeLepereire, & Pype, 2022). Traumatic event was explained that "*any event (or events) that may cause or threaten death, serious injury, or sexual violence to an individual, a close family member, or a close friend*" (DSM-V, 2013). Cancer differs from other traumatic events by its continuity because it is a chronic disease that can repeat any time during patient's lifetime after treatment (Hou, Law, & Fielding, 2009). Hospital experiences, diagnosing, treatments and whole process are tiring, challenging, and sometimes permanently change patients' and caregivers' life (Stenberg, Ruland, & Miaskowski, 2010).

As a chronic and familial disease, when one individual got diagnosed with cancer, whole family of that individual got into the treatment process in terms of caring, financial, and social support, following the treatment schedule etc. (Lauzier et. al., 2005). On the other hand, cancer diagnosis may lead very serious and sometimes permanent psychological effects in patient's family as well as the patient such as emotional distress (Ell, Nishimoto, Mantell, & Hamovitch, 1988; Given & Given, 1997; Haddad, 1994; Northouse, Templin, Mood, & Oberst, 1998; Pitceathlya & Maguire, 2003). Schmid-Büchi, Halfens, Dassen, and Van den Borne (2008) found that both women with breast cancer and their partners showed distress during the treatment process. In addition, in some cases patients' families' level of anxiety and depression were higher than the patients (Edwards, & Clarke, 2004).

When a married woman had cancer diagnosis, the second most affected relative was the husband after the patient in a family due to the reason that cancer diagnosis, treatment, and the whole process brings uncertainty, fear of loss, anger, responsibility, anxiety, etc. (Hilton, Crawford, & Tarko, 2000). In one review study it was yielded that caregivers reported over 200 problems and burdens related with cancer diagnosis. 114 of these problems were emotional problems and some these were directly related with psychological issues such as distress, meaningfulness, being traumatized, panic, loss, mood changes, helplessness, fear, depression, and anxiety (Stenberg, Ruland, & Miaskowski, 2010). The most common reaction to all these feeling was suppression not to influence the patient (Schmid-Büchi, Halfens, Dassen, & van den Borne, 2008). Some research found that when cancer progressed, caregivers' symptoms of depression, anxiety, health problems increased (Kurtz, Given, Given, & Kurtz, 1994; Pitceathly & Maguire, 2003).

Participants from different studies reported the idea that when someone in your family got diagnosed with cancer, a bunch of responsibilities took stage and suddenly there will be more to do than you imagine or you are prepared such as hospital bills, caring spouse, child responsibilities, house works, etc. (Lauzier et. al., 2005; Li, Chiang, Xu, Xu, & Loke, 2015). Moreover, Hilton, Crawford, and Tarko (2000) noticed about "being there" idea which was important for the patients and a new responsibility for the partners. It means checking out the patient both physically and emotionally and basically having all kind of information related with the process. At this point, they mentioned another aspect of being caregiver which was adaption

capacity. Not every person is prepared for such kind of challenging disease, and they questioned themselves in terms of effectiveness or competency (Hilton, Crawford, & Tarko, 2000). Caregivers especially spouses have different responsibility during the treatment process such as focusing on the other member of the family like children to keep their lives, trying to keep routines as everything is normal, helping others, trying to be positive, taking all the burden alone, financial adjustments, and new working schedule (Hilton, Crawford, & Tarko, 2000). Every new responsibility has its own challenges as well as challenges of the cancer process itself (Hilton, Crawford, & Tarko, 2000).

Breast cancer patients' partners reported that treatment process was overwhelming (Samms, 1999) due to the whole process itself as well as decision making and hospitalization (Hilton, Crawford, & Tarko, 2000). Both the patient and partners were in the need for information. On the other hand, trying to keep on moving was challenging (Schmid-Büchi, Halfens, Dassen, & van den Borne, 2008). Therefore, this is the reason for feeling overwhelmed in the process of cancer treatment. One study conducted in Korea showed that 82.2% of family caregivers were dealing with depression (Park et al., 2013).

The second caregiver group that experiences cancer in a family system is children of the patients. Research in this area mostly focused on children aged below 18 (Kühne et. al., 2012; Nelson & While, 2002; Thastum, Johansen, Gubba, Olesen, & Romer, 2008). Nelson and While's (2002) study was on adjustment issues in the children, and they stated that children had tendency to develop adjustment problems. The rate of up to 39% after the diagnosis of their parents as well as previous research (Northouse, 1984; Roy, 1990). Thastum et al.'s (2008) findings were related with coping strategies and communication between the patient and children while Kühne's et al.'s (2012) study was on psychosocial adjustments in adolescences. Limited research involved adult children of the patients. One of these studies was Compas, Worsham, Ey and Howell's (1996) study because they involved young adults aged from 19 to 32. Their findings supported the idea that children feels that they have no control over the diagnosed parent and this result was independent from the age.

Studies that were conducted with adult children were held separately in the related literature. Findings suggested that adult children experience psychological effects less compared to the spouses when they were caregiving role (Mosher, &

Weiss, 2010; Teixeira, & Pereira, 2012). However, a study conducted by Deimling, Bass, Townsend, and Noelker (1989) indicated that when adult children live with the patient, the psychological burden of the disease did not differ from the spouses. In addition, Teixeira, and Pereira's (2012) study also revealed the idea that adult children experience parental cancer as a traumatic life event and threatening subject to their mental health.

The third group of the caregivers in family systems are parents and this group was mostly studied with child patients. Parents were one of the groups which was significantly affected by the cancer treatment psychologically (Clarke, McCarthy, Downie, Ashley, & Anderson, 2009; Fotiadou, Barlow, Powell, & Langton, 2008; Phillips, et. al., 2015; Sawyer, Antoniou, Toogood, Rice, & Baghurst, 1993). Sawyer, Antoniou, Toogood, Rice, and Baghurst's (1993) research found that especially mothers experience anxiety, distress, difficulty in sleeping after cancer diagnosis. Another study supported this study by bringing an explanation that women stay at home with child and taking care of patient while fathers go to work. Because mothers spend more time with the child, they may be experiencing psychological effects such as psychological distress more significantly (Clarke, McCarthy, Downie, Ashley, & Anderson, 2009). According to Phillips et al.'s (2015) study, parents stated that their child's cancer was the most traumatic incidence of their life. In the same study, it was found that parents experienced post-traumatic stress disorder (PTSD) after the diagnosis with the findings that PTSD level was changing with the duration period of the disease. Lastly, Fotiadou, Barlow, Powell, and Langton (2008) study also indicated that emotional distress, lower life satisfaction, eating and sleeping problems, and fatigue were the symptoms which were seen in parents of child patient.

Being caregiver to a cancer patient could be challenging for younger people according to Lee et al.'s (2013) study which revealed that younger family caregiver indicated more psychological distress compared to the elder ones. Studies regarding caregiver experience and age demonstrated that elder people were dealing with the process more strongly due to the reason that they did not feel restricted, and their psychological well-being were higher compared to the younger people (Kim, & Spillers, 2010; Kim, Spillers, & Hall, 2012).

Caregiving of a cancer patient has its own challenges and difficulties. However, literature findings stand more negative place that mostly negative influences were

investigated. This study examined the effects of positive variables which were resilience, transformative power of suffering, and hope on caregiving experience in terms of mental health continuum. In the following chapters variables that used in this study were explained.

## **2.2 Mental Health Continuum**

Mental health is a state that indicates a person's general health with good functioning in life, and well-being level in terms of communication skills, coping mechanism, and connecting other people (WHO, 2022). Mental health is not a simple concept meaning that if there is not any mental disorder, it indicates that person is mentally healthy, so that mental health states a spectrum and the concept that used to explain this spectrum is mental health continuum (Keyes, & Lopez 2002). Mental health continuum (MHC) is an umbrella concept includes psychological well-being indicators in a positive way (Demirci & Akın, 2015), like personal growth, emotional well-being such as enjoying life or happiness, social well-being like connecting others (Keyes & Lopez, 2002). In a shorter way, MHC means not having psychological disorder and continue to function in a meaningful way (Keyes, 2002). According to Keyes' model (2002) mental health is a subjective manner and people's perception of themselves in some certain areas determines whether they are mentally healthy or not (Joshani & Nosratabadi, 2009). These certain areas indicated MHC which are emotional well-being, psychological well-being, and social well-being (Keyes & Lopez, 2002).

**2.2.1 Emotional well-being.** Emotional well-being basically means that positive feelings place more area in people's life compared to negative feelings and satisfaction in life, relationships, etc. accompanies these positive meanings in the first definition (Diener, 1984; Joshani & Nosratabadi, 2009). Feeling happy, cheerful, and enjoying life, as well as feeling satisfied with life in terms of job, daily life and relationships means that a person emotional well-being is high (Joshani & Nosratabadi, 2009). In this traditional definition, related articles mentioned a division about the term which indicates that emotional well-being has two dimensions: emotional one and cognitive one. Emotional dimension is related with positive feelings that dominates negative

ones, and cognitive dimension is satisfaction part (Joshani & Nostrabadi, 2009; Machado & Bandeira, 2015; Lamers, Westerhof, Bohlmeijer, Klooster, & Keyes, 2011). Later studies extended this definition and added independence that comes with people's perception of their experience in life (Diener et. al., 2003; Joshani & Nosratabadi, 2009).

**2.2.2 Psychological well-being.** Emotional well-being was understood as a traditional definition from hedonic perspective in terms of mental health continuum (Diener, 1984; Joshani & Nosratabadi, 2009; Lamers, Westerhof, Bohlmeijer, Klooster, & Keyes, 2011). Due to this perception Ryff (1989) brought another component which was psychological well-being which indicates self-acceptance, personal growth, purpose in life, positive relations with others, autonomy, and environmental mastery (Joshani & Nosratabadi, 2009; Lamers, Westerhof, Bohlmeijer, Klooster, & Keyes, 2011; Ryff, & Keyes, 1995). Self- acceptance means that accepting one's whole life experience with their all aspects no matter they are positive and negative (Machado & Bandeira, 2015; Ryff, 1998). Learning from negative experiences and keep going to life indicates personal growth (Machado & Bandeira, 2015; Ryff, 1998). The third component, purpose in life involves finding meanings in life and being able to set new goals (Machado & Bandeira, 2015; Ryff, 1998). Having meaningful relationships with others, having friends, and loved ones indicates positive relations with others (Machado & Bandeira, 2015; Ryff, 1998). Autonomy means that having control over one's own life, decisions, and responsibilities (Machado & Bandeira, 2015; Ryff, 1998). Lastly, environmental mastery is consisted of satisfying own needs and beliefs by being aware of own environment and using it (Machado & Bandeira, 2015; Ryff, 1998). Psychological well-being has these six dimensions developed by analyzing some theorists such as Maslow, Rogers, Erikson, Allport, and Jung's study which forms lifespan development theories (Lamers, Westerhof, Bohlmeijer, Klooster, & Keyes, 2011).

**2.2.3 Social well-being.** Social well-being is the third component of MHC that Keyes (2002) included his model. Personal and public relations differ from each other and while first two components, emotional and psychological well-being, were related with the person, the third one social well-being is related with others (Joshani &

Nosratabadi, 2009; Keyes, 1998). Although the model prioritates first two dimensions, social well-being has an important place due to reason that people face with numerous difficulties and challenging experiences in social life that may affect MHC (Joshi & Nosratabadi, 2009). Social well-being has also some components itself which were social integration, social contribution, social coherence, social actualization, and social acceptance (Joshi & Nosratabadi, 2009; Keyes, 1998, 2005; Keyes & Shapiro, 2004). Social integration means having common points with the society and belongingness level to that society (Joshi & Nosratabadi, 2009; Keyes, 1998, 2005; Keyes & Shapiro, 2004). Social contribution means that giving something meaningful to society from one's value as it can be understood from the concept itself while social coherence means a curiosity toward the world as well as realization of quality, functioning way of the world (Joshi & Nosratabadi, 2009; Keyes, 1998, 2005; Keyes & Shapiro, 2004). Noticing one's own potential and power to shape the society is social actualization according to Keyes (2005). Lastly, social acceptance means being able to trust others, and being trustful, and believing that people are worth to live with and giving worth people (Joshi & Nosratabadi, 2009; Keyes, 1998, 2005; Keyes & Shapiro, 2004).

Emotional well-being, psychological well-being, and social well-being shapes MHC and they are used for deciding a person mental health degree (Keyes, 2002). MHC was named in two ways according to its poles which were positive and negative (Keyes, 2002). In a positive way with having total mental health called *flourishing* while the opposite part which indicates negative outcomes called *languishing* (Keyes, 2002). From a more detailed perspective, concept of *flourishing* was used for having a meaningful life with high functioning and positive emotions as well as being social. Flourishing in life also involves being active in life, engaging experiences and being eager to have a meaningful life (Keyes, 2003). On the other hand, concept of *languishing* means low level of psychological well-being with damaged mental health (Keyes, 2002). In this state negative feelings dominate positive feelings and people feels a void in themselves (Keyes, 2003). They have difficulty in daily functioning and their life was not enjoyable anymore according to them (Keyes, 2003).

**2.2.4 Mental health continuum and caregivers of cancer patients.** Well-being both psychical and psychological, life satisfaction, socializing are some of the concepts

which define MHC (Keyes, 2002). In addition, as it was explained in detail above, personal growth, social coherence, having meaningful relationships and well-functioning in life are also other components of MHC (Joshani & Npsratabadi, 2009). When people have psychological disorders, their quality-of-life decreases (Fergusson et al., 2015). Since anxiety and depression are mental health disorders, if caregivers were diagnosed with them, it will not be surprising that their well-being levels reduce. Geng et al. (2018) supported the idea by the findings which showed the possibility of having depression and anxiety was high while life satisfaction was low in caregivers of cancer patient.

Caregiver role is a heavy job to fulfill due to its requirements. Kim, Baker, Spillers, and Wellish (2006) investigated being caregivers in terms of adjusting new roles in life and found that these new roles make them feel more stuck and lowers their quality-of-life. Similarly, Kim, Spillers, and Hall (2012) found that caregiver's quality-of-life scores were low after five years from diagnosis due to the reason that responsibilities that come with treatment process continued. Moreover, being caregiver to a cancer patient means approximately working 8.8 hours per day (Kim & Spillers, 2010). Although estimated time was changing patient to patient, caregiver role continues after two years of completing the treatment with its full aspects such as caring other family members, emotional support, physical support, medical assistance, etc. which can be very overwhelming (Kim & Spillers, 2010). The same study found that caregivers' distress level was high during the first diagnosis and at the beginning of the treatment process while it returned normal level of psychological well-being after two years with higher level of spiritual well-being compared to the others suffering from serious diseases (Kim & Spillers, 2010).

To conclude, cancer treatment process has a huge effect on caregivers' mental health especially in the first phases. However, later psychological problems may turn into psychosocial or physical problems which can be not only temporary but also permanent (Stenberg, Ruland, & Miaskowski, 2010).

### **2.3 Definition of Resilience and Characteristics of Resilient Individuals**

Experiencing a challenging life event, and ability to move on after it was called as resilience in the literature (Masten, 2001). Dealing with chronic and serious diseases

such as cancer, is a life-threatening challenging event and a person needs some resources like coping strategies, decision making skills, and resilience (Clausen, 1993; Hornor, 2017). One of the most focused and crucial of these resources was resilience in the literature (Li, Qiao, Luan, Li, & Wang, 2019; Palacio, Krikorian, & Limonero, 2018; Semiatin, & O'Connor, 2012). Resilience was described as gaining adaptation to a challenging process and successfully get through it (Limonero et al., 2015; Palacio, Krikorian, & Limonero, 2018). Resilience was defined as people's ability to manage stress comes from undesired events of life and adaptation to outcomes of these undesired events (Weston, & Parkin, 2010) as well as being hopeful and optimist toward serious risks and difficulties (Rutter, 2006). To define a person resilient, two conditions must be occurred which were a serious threat toward that person and adaptation skill to that threat (Masten, & Coastworth, 1998).

In addition, resilience might be perceived as a protective factor toward a psychological difficulty (Palacio, Krikorian, & Limonero, 2018). According to Vanderpol (2002), resilience was a moving on skill that prevent people to develop psychological disorders such as PTSD. The reason behind this perception was that some characteristics of human beings make them more adaptive such as self-determination, self-control, environmental and genetic factors, temperament, etc. (Hornor, 2017). All these characteristics of resilience were investigated separately. For example, self-reflection, self- confidence, and determination were tried to be explained from a narrative perception in terms of resiliency (Hauser, Golden, & Allen, 2006) while mental features such as decision-making and planning were studied by Clausen (Clausen, 1993; Hornor, 2017). Since resilience has numerous concept itself, basically resilience was described as a dynamic concept that encountering negative experience though life and successfully adapting them to move forward (Rutter, 2006). Moreover, resilience consisted of some personal characteristics which can be resources to cope with stressful situations. These coping resources involves emotional, social, neurological, and cognitive aspects themselves that influence resilience (Cathomas, Murrough, Nestler, Han, & Russo, 2019; Denckla et. al., 2020; Rosenberg et. al., 2014; Ungar & Theron, 2020;).

Since resilience was related with the adaptation skills toward undesired events of life (Weston & Parkin, 2010), some studies were conducted to find common characteristic regarding with resilience such as self-control, self-efficacy, self-esteem,

being extraverted, openness, agreeableness, emotion regulation skills, optimism, intellectual functioning, social skills, having coping strategies, being hopeful (Asaad, 2021; Herrman, et. al., 2011; Joseph, & Linley, 2006). In addition, according to Garmezy (1993), resilient people social skill, empathy, and locus of control levels were high. Self-respect, life-satisfaction, being optimistic, having positive relations with friends and family, having problem solving skills were other characteristic which were seen in people whose resilience level were high (Tugade, & Frederickson, 2004; Werner, 1984).

### **2.3.1 Protective factors, positive outcomes and risk factors for resilience.**

Since resilience was defined as ability to adapt stressful event of life (Weston, & Parkin, 2010), some risk factors, positive outcomes, and protective factors were found that increase or decrease this adaptation skill (Eshel, Kimhi, Lahad, Leykin, & Goroshit, 2018). Risk factors, and protective factors were divided into three which were familial, individual, and environmental factors.

To be named as resilient experiencing a stressful life event and adaptation to it were required according to Masten and Coastworth (1998) otherwise, adjective of “resilient” was changed into “well adjusted,” or “competent” when there was no threatening risk toward person (Masten, & Reed, 2002). Risk was defined as the possibility of facing an unwanted consequence (Masten, & Reed, 2002). According to this definition risk factors were used to define factors that have probability to threat one group or individual’s outcomes and have strength to reach negative outcomes (Masten, & Reed, 2002). Risk factors toward resilience involved sense of danger (Solomon, et. al., 1989), and exposure to distressing experiences such as terror attacks (Kimhi, & Shamai, 2004), loss and grief (Mancini, & Bonanno, 2011), These risk factors were divided into three groups depending on their source. First group involved individual risk factors such as birth conditions (Bradley, et. al., 1994), developmental deficiencies and poor functioning skills (Keyes, 2018), chronic diseases (Hobfall, & Lerman, 1988), and psychological disturbances (Meyer, & Mueser, 2011). Second group of risk factors were familial risk factors which consisted of parental physiological and psychological diseases (Garmezy, & Rutter, 1985; Focht-Birkerts, 2000). As well as individual and familial risk factors, lastly, environmental risk factors were also influenced resilience. According to Keyes (2018), national disasters, or war,

on the other hand, poor social skills, poverty, exposure to violence, low education level and being unschooled were other risk factors for resilience.

Risk factors were explained in detail below. Resulting from these factors, positive outcomes were discussed in the literature in terms of resilience (Masten, & Coatsworth, 1998; Masten, & Reed, 2002; Luthar, & Cushing, 2002). Basically, positive outcomes were used to explain completing expected positive behaviors of society after a experiencing a challenging life event (Masten, & Reed, 2002). For example, after a premature birth, a toddler's walking steps could be seen a developmental task as a positive outcome. Resilience related positive outcomes indicated academic achievement, acceptance from society, not showing mental disorders symptoms, presenting age-appropriate behaviors, functioning well in daily life (Masten, & Reed, 2002).

The last component of this part is protective factors toward resilience. As well as risk factors, protective factors were also divided into three groups which were individual, familial, and environmental factors. In individual factors, it was mentioned problem solving skills, self-regulations skills, and personal characteristic (Masten, Reed, 2002). To be clearer with the examples, Antonovsky (1993) mentioned the concept of sense of coherence as a resource protecting health toward stressful situations and ability to recover. Various studies were conducted to reveal the protective role of sense of coherence on resilience (Braun-Lewensohn, 2015; Eshel, Kimhi, Lahad, Leykin, & Goroshit, 2018; Nilsson, Leppert, Simonsson, & Starrin, 2009). Second individual protective factor for resilience was well-being (Eshel, & Kimhi, 2016). Eshel and Kimhi (2016) found a significant positive correlation with resilience and well-being. Self-efficacy (Bandura, 1989), social support (Braun-Lewensohn, 2015), resource gain (Hobfoll, & Lilly, 1993), such as post-traumatic growth, were accepted as individual protective factors of resilience (Eshel, Kimhi, Labad, Leykin, & Goroshit, 2018). Familial protective factors included positive attachment relationships, ability to have close relationships, *positive family climate*, educated parents, high socio-economic-status, related parents, not having mental or chronic disease in the family, and authoritative parenting style (Masten, & Reed, 2002). Lastly, environmental protective factors were consisted of being schooled, living in a safety community, good and accessible public health, being organized with

the society, and having emergency services such as 911 in USA (Masten, & Reed, 2002).

Risk factors, positive outcomes and protective factors toward resiliency were mentioned. In the following part resiliency in caregivers of cancer patient will be explained.

**2.3.2 Resilience in caregivers of cancer patients.** Cancer brings a burden to caregiver which has both psychological and physiological effects (Palacio, Krikorian, & Limonero, 2018). To cope with this burden, some psychological resources are needed such as resilience (Semiatin, & O'Connor, 2012). Karatzias, Jowett, Yan, Reaside, and Howard (2017) supported the idea that psychological resources which were well-being and resilience as pioneers in this study, play a more active role compared to the biological factors when the subject is traumatic life events and health.

Resilience took stage in the literature which was investigated in three groups which were resiliency in patients (Min, et. al., 2013); Seiler, & Jenewein, 2019; Vartak, 2015), resiliency in caregivers (Dionne-Odom, et. al., 2021; Palacio, Krikorian, & Limonero, 2018), and family resilience (Li, Qiao, Luan, Li, & Wang, 2019). Due to the reason that cancer is a disease that whole family system fighting together, resilience was worked as family resilience in the literature. One recent study indicated that family resilience reduced caregiver burden (Li, Qiao, Luan, Li, & Wang, 2019). Moreover, in the same study, it was revealed that family resilience has direct and indirect influence of patient quality-of-life (Li, Qiao, Luan, Li, & Wang, 2019). In this study, it was investigated resiliency in caregiver different from the literature.

Resilience can gain new meanings during the treatment process for caregivers (Palacio, Krikorian, & Limonero, 2018). To be more specific, one research was focused on the mediator role of resilience, between how to deal with the disease and adaptation to disease, during the cancer treatment adaptation process in terms of caregiving experience (Palacio, Krikorian, & Limonero, 2018). In addition to that Dionne-Odom and her colleagues (2021) found that high resilience level in caregivers support caregivers' coping strategies and decision-making processes which were crucial aspects of treatment process. Another aspect of resilience in the cancer caregiving process, was that resilience was seen not a concept that someone is resilient

or not. Meaning that caregivers' resilience was a dynamic skill that sometimes high sometimes low during the process (Sun, Qin, & Hengudomsub, 2021).

Resilience has another important role that helped caregivers in the treatment process which is a protective role toward caregiver burden. Caregiver burden was one of the highly focused topics in investigation of caregiving of cancer patients (Palacio, Krikorian, & Limonero, 2018; Üzar-Özçetin, & Dursun, 2020). When resilience level was high, the possibility of developing caregiver burden was low (Palacio, Krikorian, & Limonero, 2018). In addition, resilience also contributed caregivers to have high levels of quality of life (Kim, et. al., 2016). Moreover, studies found that resilience has positive effects on caregivers' mental health and physical health, increases life satisfaction while it reduces the possibility of developing psychological disorders such as depression and anxiety (Goldzweig, et. al., 2013; Palacio, Krikorian, & Limonero, 2018; Steptoe, Dockray, & Wardle, 2009).

In this study, resilience and hope were investigated together due to the reason that resilience involves sense of hope (Rutter, 2012).

## **2.4 Transformative Power of Suffering**

People experience pain after devastating events and this pain can form itself physical or psychological ways (McClelland, 2019). Perception of pain can change during the time with the level of influence of pain meaning that people suffering level is not the same at the beginning and at the end (McClelland, 2019). Human beings are strong creatures with the life experiences, and they are capable to transform negative events to positive outcomes (Carel & Kidd, 2019). Suffering from pain has power to change people to make them better or more wisdom to comprehend meanings in life (Carel & Kidd, 2019). This argument was turned into a concept which is transformative power of suffering (Joshano, 2014). The concept of transformative power of suffering (TPS) comes with the idea that some experience makes people stronger and prepared to the new events (Joshano, 2014) according to Paul's (2014) study which claimed that at the beginning, in people's mind, that think and believe that difficult experiences make them stronger. Furthermore, the aspects of personal experience which claimed that with the challenging experience people's values, perception of life, and desires can change or transform, was added to the concept (Carel

& Kidd, 2019). Moreover, TPS means in a way that accepting negative outcomes of life events such as disappointments and failures (Carel & Kidd, 2019).

Pain can gain positive meanings by the inner resources of people due to reason that pain has power to make people stronger and ready to new negative events (Dinçer & Aydoğan, 2019; Dinçer, Ekşi, Demirci, & Kardaş, 2015; Jayawickreme & Blackie, 2016). Furthermore, research supported the idea that people's ability to make connections with other people increases after experiencing negative life incidences (Joseph & Linley, 2008; Tedeschi & Calhoun, 2004) as well as they feel stronger and more mature and validate life better way (Tedeschi & Calhoun, 1996). Since TPS is a new concept in literature, research is limited. However, this limited research was conducted in individual contexts in terms of its relations with resilience (Dinçer & Aydoğan, 2019; Dinçer, Ekşi, Demirci, & Kardaş, 2015).

According to Gilbert (2006), people have tendency to forget unpleasant events and transform them pleasant memories to deal with them in a better way (Gilbert, 2006). Experiencing negative events voluntarily or involuntarily influenced the process due to the reason that in involuntarily cases such as chronic illness, people face with its reality and accept the process (Carel & Kidd, 2019). Similarly, people have potential to transform negative incidences or feelings positive ones by completing them positive outcomes (Carel & Kidd, 2019). Dealing with a threatening illness as a caregiver may end up with personal growth and reduced anxiety as well as it can change perception of the pain according to recent studies (Palacio, Krikorian, & Limonero, 2018; Rosenberg, Baker, Syrjala, Back, & Wolfe, 2013).

**2.4.1 Transformative power of suffering and caregivers of cancer.** As a traumatic event, cancer is a challenging and devastating illness for patients and their caregivers. Caregivers deal with pain in this process and outcomes of this pain is an example of TPS (Cormio et. al., 2014; Nouzari, Najafi, & Momennasab, 2019). Although the most common psychological effects of this diagnosis are anxiety and depression, there were research indicated that cancer diagnosis can lead improved self-esteem, finding more meaning in life, and having a strong instinct to live a purposeful life (Andrykowski & Hunt, 1993; Bower et al., 2005; Ness et al., 2005) which indicates post traumatic growth (Cormio et. al., 2014; Pirl, 2004). Tedeschi and Calhoun (1996) suggested that changes in perception in life or finding more meaning in life can require

pain comes from an extraordinary event of life such as cancer diagnosis which can be counted as an example of TPS.

TPS research is limited in the literature especially in cancer patient caregivers. However, a similar concept (Cormio et. al., 2019) post-traumatic growth was investigated in this area. Research mentioned some dimensions of post-traumatic growth such as responsibilities (Kim, Baker, Spillers, & Wellisch, 2006), coping skills (Friedman et al., 1988), and hope (Carver et al., 1993) that can be related with TPS. In a more detailed way, caregiving comes with additional roles and responsibilities in home, hospital, and event at work (Kim, Baker, Spillers, & Wellisch, 2006). According to Kim, Baker, Spillers & Wellisch's (2006) study, these new roles, and responsibilities could lead caregivers to find new meanings in life and support them by enhancing their psychological resource. TPS involves continuous hope and expectations toward future and accepting life events to be better and be more powerful (Tedeschi, & Calhoun, 1996). Findings new meanings in life and enhancing psychological resources perceived as a good indicator of TPS in caregivers.

TPS is a positive psychology concept and its focuses on positive outcomes of negative experiences (Dinçer & Aydoğan, 2019; Dinçer, Ekşi, Demirci, & Kardaş, 2015). Since cancer treatment is a complicated process in terms of mental health with its ups and downs (Manne, et. al., 2004), the consequence of the process has potential to transform caregivers' pain into a power to deal with the disease. Literature mostly focused on its negative effects such as it was claimed that cancer merely could be a main reason for caregivers' depression and anxiety (Geng et. al., 2018). There were studies about mortality levels of caregivers, which found that cancer patients caregivers' risk of mortality 63% higher than compared to the non-caregivers (Schulz & Beach, 1999). However, in a later study with large sample showed the opposite which suggested that this kind of life experience make people more careful with adaptation skills that can reduce mortality (Brown et. al., 2009). Studies conducted with partners of cancer patients showed that caregiver partners post-traumatic growth level increases after the treatment process (Manne et. al., 2004; Zwahlen, Hagenbuch, Carley, Jenewein, & Buchi, 2010). Although all these studies were not directly studied on in terms of cancer and TPS, they gave the clues that cancer treatment could influence caregivers TPS level.

## 2.5 Hope

Hope is a powerful element for human being or that resilience involves hope (Rutter, 2012). Hope was defined different ways in different fields of research. For example, one of the most accepted definitions was expecting one person's aims to be met (Snyder et. al., 1996). Hope means not only aims to be met but also engaging actions that can lead reaching that aims and having ability to draw alternative ways (Snyder et. al., 1996). Another explanation of hope made by Snyder et al. (1991) was that hope is. a mindset which takes its roots from having an aim toward future and ability to find ways to reach that aim.

Hope is not merely a basic feeling or mindset. Hope involves some concepts such as planning, cognitive processing, choosing pathways, thinking positive (Snyder et. al., 1991). At this point, literature mentioned "hopeful thoughts" meaning a higher order thinking with analytical skills under the concept of goal-directed thinking process (Snyder et. al.,1996). Following research added some other features to hope such as interests (Elliott, Witty, Herrick, & Hoffman, 1991), optimism (Seligman, 1991), coping strategies etc. (Snyder et. al., 1996). According to Snyder et al. (1996), hope occur in two different ways which were dispositional hope and state hope. State hope involves temporary events and specific times while dispositional hope was more generalized that consist of different events and times compared to the state hope (Snyder, et. al., 1996). It can be said that dispositional hope captures state hope because when intensity of state hope increases, it can turn into dispositional hope and when people level of dispositional hope is higher, their capacity to dealing with challenging event increases due to the reason that they are more comfortable with giving reactions different events from a large range (Snyder et. al., 1996). Their potential to analyze events, seeing pathways and using higher order-thinking skills to reach goal-oriented outcomes is also higher. This goal-oriented outcomes were related with hope in Snyder et al.'s (1996) study. In addition to goal-oriented definition, hope concept also involves optimism that implies a mindset that all goals can be met according to different writers in the field (Erickson, Post, & Paige, 1975; Farber, 1968).

In summary, hope is a concept that involves an aim, a capacity to reach that aim, and cognitive skills to see pathways to reach that aim (Snyder et. al., 1991). In this

study, Snyder's study was used which focused on goals, be predictive about future, and involves optimism inside the definition.

**2.5.1 Hope and caregivers of cancer patient.** When the subject was cancer, it was noticed that definition of hope was changed due to the reason that general definitions or scales was used to measure non-caregiver on non-patient (Duggleby et. al., 2007). Duggleby et al. (2007) suggested a new perspective to hope which was based on the concept of "hanging on to hope" which was developed after a study that conducted with terminally ill patients' caregivers and it consists of concepts such as being positive, being unique and living in the moment (Duggleby et. al., 2007). Hope gained new meanings for caregivers involves being there, living in the moment, staying positive, and perceiving their own story from their perspective (Duggleby et. al., 2007). The difference in this new definition of hope was that it focused on the moment not the future, while the traditional definition involves future (Duggleby et. al., 2007). In addition, this definition of hope consisted of spiritual aspects inside that make the caregiving and cancer process easier (Duggleby et. al., 2007).

Hope studies mostly conducted with patients rather than caregivers. Stanton, Danoff-Burg, and Huggins (2002) focused on hope's role in coping strategies during treatment process in women diagnosed with breast cancer. They found that hope was the most important factor along the coping strategies in treatment adaptation process. One meta-synthesis conducted with 46 papers about psychological experience of having head and neck cancer divided into six concepts of psychological disturbances which were "uncertainty and waiting", "disruption to daily life", "diminished self", "making sense of the experience", "sharing the burden", and "finding a path" (Lang, France, Williams, Humphris, & Wells, 2013). Although, this meta-synthesis was made for head and neck cancer patients, some of the concepts were common with other types of cancer such as "uncertainty and waiting," "diminished self," and "disruption to daily life". For example, colon cancer patients engaged the concept of uncertainty with loss and confusion (Little, Jordens, Paul, Montgomery, & Philipson, 2022). In addition, the concept "diminished self" was used to explain the damage that cancer gave the patient's self-esteem and self-identity (Charmaz, 1983).

Hope was used a powerful resource in families who were fighting with cancer due to the reason that it serves both psychological well-being and spiritual well-being

during the process (Borneman, Stahl, Ferrell, & Smith, 2002; Holtslander, Duggleby, Williams, & Wright, 2005). Moreover, hope was an interesting subject in the field because it never ends according to the literature. Separately from the stage, caregivers and patients keep being hopeful (Bergqvist & Strang, 2019) whether the patient in the fourth stage or terminal stage meaning that there is nothing to do anymore. In China one study that conducted with breast cancer patients' relatives found that family resilience was associated with post-traumatic growth which was the most similar concept to one of this study's variable: TPS (Li, Qiao, Luan, Li, & Wang, 2019). However, other studies with different subjects such as resilience or quality-of-life showed that positive concepts were negatively correlated with the cancer stage (Dionne-Odom, et. al., 2021; Lau, Khoo, Ho, & Tan, 2021). Meaning that when the cancer progressed or had metastasis caregivers' positive feelings decreases.

## **2.6 Related Studies**

Cancer is a highly popular topic that have been studied nationally and internationally since its appearance. In this part, related international studies regarding cancer, mental health continuum, resilience, transformative power of suffering and hope about patients' caregivers were explained in detailed below.

**2.6.1 International studies.** In this part, international studies that focused on mental health continuum, resilience, transformative power of suffering, and hope in caregivers were mentioned. Psychological effects of cancer (Ell, Nishimoto, Mantell, & Hamovitch, 1988; Given & Given, 1997; Haddad, 1994; Northouse, Templin, Mood, & Oberst, 1998; Pitceathlya & Maguire, 2003), anxiety, depression, and distress in cancer patients and caregivers (Kurtz, Given, Given, & Kurtz., 1994; Pitceathly, & Maguire, 2003; Stenberg, Ruland, Miaskowski, 2010), resilience in cancer patients and caregivers (Li, Qiao, Luan, Li, & Wang, 2019; Palacio, Krikorian, & Limonero, 2018; Semiatin, & O'Connor, 2012), hope, post-traumatic growth, coping strategies, (Nouzari, Najafi, & Momennasab, 2019; Stanton, Danoff-Burg, & Huggins, 2002; Utne, Miaskowski, Paul, & Rustøen 2013), quality-of-life (Gro, Dahl, Moum, & Fosså, 2005; Jassem, Penrod., Goren, & Gilloteau, 2015), psychological well-being (Cavers, et. al., 2012; Northouse, Katapodi, Schafenacker, & Weiss, 2012)

are some of the prior topics regarding studies about cancer. Some of the studies were mentioned above while explaining the variables. The rest of the related studies were summarized below.

One study conducted with 106 caregivers in Taiwan showed that family caregivers' psychological distress level was low in the first diagnosis process of lung cancer (Lee, et. al., 2013). The reason behind this finding was explained as conservative structure of Taiwanese people. On the other hand, this research was conducted with early-stage cancer patients' relatives which was different from other studies regarding cancer's psychological effects of mental health (Lee, et. al., 2013).

Resilience became one of the prominent psychological contents related with cancer that was widely studied in the literature. Resilience is a controversial term due to the reason that caregiver's resilience has not follow a path correlated with stage (Simpson et. al., 2015). Simpson and his colleagues' study (2015) which conducted with 78 outpatient's caregivers, did not found a meaningful result that showed that resilience level increased when the cancer was early stages. However, their work supported the idea that high resilience level means feeling less anxious and less depressed (Simpson, et. al., 2015).

The findings of one of the recent studies, that conducted with 112 family caregivers older than 21 years old, indicated that although the study conducted with advanced patients' caregivers, higher resilience helps caregivers to prepare themselves for further challenging steps such as surgery, advanced treatment etc. (Dionne-Odom, et. al., 2021). They claimed that high resilience level in caregivers of patients who were in stage three or four, helped caregivers to manage stressful situations during the treatment process, while low level of resilience makes their life more difficult in terms of meeting requirements of caring a cancer patient (Dionne-Odom, et. al., 2021).

Another study, Sun, Qin, and Hengudomsu's (2021) review 26 articles which were published in between 2010 to 2020 focused on what affects caregivers' spouses' resilience level, revealed that resilience can be a powerful asset for both the patient and caregiver when it was used in the cancer treatment process. Sex (Bookwala, 2014; Street et al., 2010), age (Jones et al., 2015; Opsomer et al., 2019; Simpson et al., 2015; Tang et al., 2013), educational level (Tang et al., 2013), and relationship with parents (Cassidy, 2013; Jia et al., 2015; Jones et al., 2015; Tang et al., 2013) were the prominent demographical variables that associated with spousal caregivers' resilience.

To be more specific, Bookwala's (2014) study found that men have higher levels of resilience compared to the women while, Street et al. (2010) suggested totally opposite result. Opsomer et al. (2019), Simpson et al. (2015) and Tang et al. (2013) found that resilience increases with age while Jones et al.'s (2015) finding revealed that elderly people's resilience level was lower. Tang et al.'s (2013) study yielded a positive correlation between education level and resilience level. Lastly, four other study indicated that spousal caregivers' resilience level were higher compared to the other family caregivers (Cassidy, 2013; Jia, 2015; Jones, 2015; Tang et al., 2013).

Li, Wang, Yin, Li, and Li (2018) investigated both family resilience and patient's resilience in terms of their effects on caregiver burden with 108 patients and 108 principal caregivers. In this study only early staged (stage 1-3) patients' and their caregivers were included. They found that familial resilience and patient's resilience level positively correlated with each other while negatively correlated with anxiety, depression levels or other negative feelings such as stress and caregiving burden. In addition, their results indicated that caregivers' resilience had a positive effect on dealing with the process and undergoing this incidence becoming more stronger compared to the past.

Since the term "transformative power of suffering" is relatively new in the literature there is not enough research which was focused on cancer and transformative power of suffering. The closest concept to TPS is posttraumatic growth which was studied before in cancer patients and relatives. Weiss (2004) found that women who got diagnosed with breast cancer reported posttraumatic growth significantly when they engaged with a cancer survivor. In addition, Hwang et al.'s (2018) study with 273 caregivers supported the idea that people have capacity to overcome traumatic and distressful incidences of life with psychosocial growth and self-strength. 42% of the participants from high level resilience group indicated better health conditions compared to the low resilience group. Hence, they claimed that family caregiver can recover, adapt new situations, and can face with new crisis more effectively if their resilience level is high and they are in good physical health

Brown et al.'s (2009) study involved 3376 married people's data received in 1993, 1995, 1998, and 2000 at the beginning. However, 26.9% percent of the participant died during the study, and they completed study with 2467 people, and their study involved mortality risk, caring qualifications, needs of spouses and health. Their

study found that caregivers' compassion toward their patients may be helpful in terms of their health based on the finding that caring more than 14 hours per week reduced mortality rate compared to the non-caregivers. In addition, caring activity activates stress regulation mechanisms in the body and show healer effect for the body.

In alliance with this study, another work, Kim, Baker, Spillers & Wellisch's (2006) study which included 457 caregivers aged between 18-64 suggested that some outcomes of being caregivers such as new responsibilities, adaptation skills, being more careful and perceiving life in a more meaningful were some unexpected outcomes of cancer which perceived relatively positive. In addition, one study which was conducted in Indonesia reported some positive effects of treatments process on caregivers in psychosocial aspect in terms of values and family bounding.

Hope was generally examined with advanced patients in the literature to see whether it decreases with the progressive stages or not (Bergqvist & Strang, 2019; Weeks, 2012). There might be some additional reasons for that such as related literature has limited studies with early-stage patients or relatives. Hope was investigated with different variables in the field such as caregiver burden (Utne, Miaskowski, Paul, & Rustøen 2013), coping strategies (Stanton, Danoff-Burg, & Huggins, 2002), post-traumatic growth, and social support (Nouzari, Najafi, & Momennasab, 2019).

In Norway, Utne, Miaskowski, Paul & Rustøen's (2013) study was conducted with 112 outpatients' caregivers, and tried to analyze hope, quality of life, and life satisfaction levels of caregivers as well as caregivers' reaction toward the treatment process. They worked on caregiver burden from different dimensions in this study and the prior common determinant for caregiver burden was hope. Moreover, in this study, hope differed from other variables with the finding that the merely predictor of self-esteem, impact on health and lack of familial support was hope. In addition, hope help caregivers to cope with the treatment process less stressful and in physically and psychologically healthier way while it decreases the possibility of caregiver burden.

In Iran, Nouzari, Najafi, and Momennasab's (2019) research enlightened the relationship between hope, post-traumatic growth, and social support. The results supported the idea that perceiving pain in a different way which is positive and productive, and directing it post-traumatic growth may result this experience an instructive incidence of life for caregivers in Iran. They found that hope has a

meaningful influence on post-traumatic growth in different dimensions such as realizing different pathways in life, and personal growth.

**2.6.2 National studies.** National studies focus on mental health continuum, resilience, transformative power of suffering, and hope of caregivers of cancer patients in Turkey were explained in this part.

To start with mental health continuum, studies relate with psychological effects such as depression and anxiety were conducted with caregivers in Turkey. Alacacioglu, Tarhan, Alacacioglu, Dirican and Yilmaz (2013) found that 28.8% of cancer patients' caregivers suffer from depression. In the same study, patients' depression statistics were 47.9% which was almost two times higher than compared to the relatives. Moreover, in this study findings indicated that female relatives displayed higher level of depression and anxiety compared to the males especially in lower income and educational status related with the stage and severity of the cancer.

Gözüm and Akçay (2005) conducted a study to find out needs of cancer patients and caregivers with 111 participants. Only 34 were caregivers while the rest 77 participants were cancer patients, in this study and participants quality of life and depression level were investigated. In this study 47% of the caregivers were the child of the patient, and most of the caregivers were older than the patient. According to the results, caregivers were feeling less depressed compared to the patient as well as their quality-of-life scores were better too. In addition, caregivers' health perception about themselves were positive than patients.

Baran, Arda Sürücü and Üzel's (2019) comparison study was focused on resilience level of parental caregivers. The study involved 53 mothers of children with leukemia and 51 mothers of healthy children. Caregiver mothers' resilience level was found higher compared to the mothers of healthy children. In addition, they found significant correlations with social support and resilience.

In one study that was conducted with 110 caregivers of outpatients and inpatients from oncology services examined caregivers' hopelessness level (Tokem, Özeçelik, & Cıçık, 2015). It was found a negative correlation between social support and hopelessness level meaning that receiving social support decreases hopelessness level. According to this result, they concluded that receiving social support may increase hope in caregivers and help them to have better adaptation skills.

Surucu et al.'s study (2017) included 69 patients and their principal caregivers found that cancer patients were mostly taken care by their children in Turkey. Their findings supported the outcome that caregivers were hopeful during the treatment process. They also concluded that hope and educational status had significant relationship in a positive way.

Üzar-Özçetin and Dursun's study (2020) consisted of 210 family caregivers, and they investigated caregivers' burden, resilience, and quality of life. Caregivers' resiliency scores were negatively related with caregiver burden while positively correlated with the adaptation skills (Üzar-Özçetin, & Dursun, 2020). They reached to conclusion that resilience can prevent caregiver burden if caregivers' resilience level is high.

There is no study related with transformative power of suffering in cancer patients' caregivers in Turkey. Only one study was conducted with caregivers in terms of post-traumatic growth which was Alkan et al.'s study (2018). 426 people were participated in the study and almost half of the participants with the rate of 49.3% reported high levels of post-traumatic growth scores (Alkan, et. al., 2018). According to their study, being older than 40 years-old, female and having siblings were associated with high post-traumatic growth scores.

## **Chapter 3**

### **Methodology**

Reflexivity of the researcher, research design, sample of the study, instruments that used in the research, procedure of data collection and analysis were explained in detail respectively in this chapter. At the end, limitations of the study were mentioned.

#### **3.1. Reflexivity of the Researcher**

Cancer is one of the widely investigated and popular topics in both biological and social sciences. The reason behind choosing this theme in a master thesis is that researcher's all lost family members died from cancer. Researcher homeland is Rize which is one of the places that affected by Chernobyl disaster. In addition, researcher worked for five months in a private hospital as a translator to oncology patients. She had to chance to observe and see the needs of patients and caregivers. Patients can get related attention in some way while caregivers had to deal with additional issues while trying to be strong and not affected from the process. Therefore, the idea of a study with caregivers was seen interesting and beneficial for the literature and for the researcher to both help herself and others.

#### **3.2 Research Design**

Although both quantitative and qualitative data collected in this study, it was a quantitative study. Hence, correlational research design which is one of the quantitative research design was used in this study. There are two types of correlational design which are correlation and comparison. In correlation type at least two variables are investigated whether they change together or not and the level of this change. In comparison type the subject of investigation is that dependent variable is affected by the groups that depends on independent variable or not (Karasar, 2011).

#### **3.3. Participants**

Population of the study consists of individuals who has a parent, partner, or child with a cancer diagnosis. Participants who were older than 18 years old, whose patients were at the first three stages of cancer when they got prognosis, and their cancer did not metastasize, and in the active treatment process was included to the study. On the other hand, if the patients were at the four or terminal stage, cancer metastasized, or treatment process completed were excluded from the study. Convenient sampling method and snowball sampling method were used to collect data. Snowball sampling method is a method that used in working a population who is difficult to reach. In convenience sampling method, researcher reach out people who are available, fast reachable, and easy to reach (Karasar, 2011). 148 people filled out the study form but not all of them met the selection criteria. 13 people did not verify that their patient met the criteria. 16 people answered that their patient got their diagnosis more than five years. Therefore, 29 people's answers were eliminated because of the reason that they were not meeting the criteria. Their patients got metastasis, or they were in the fourth stage or cancer repeated itself.

Table 1  
*Descriptive Statistics of Participants*

| Demographical Variables | Mean  | SS    | n  | %    |
|-------------------------|-------|-------|----|------|
| Gender                  |       |       |    |      |
| Female                  |       |       | 92 | 77.3 |
| Male                    |       |       | 27 | 22.7 |
| Age                     | 41.82 | 12.49 |    |      |
| 18-29                   |       |       | 21 | 17.6 |
| 30-40                   |       |       | 38 | 31.9 |
| 41-50                   |       |       | 28 | 23.5 |
| 51-60                   |       |       | 25 | 21.1 |
| 61-72                   |       |       | 7  | 5.9  |
| Education Status        |       |       |    |      |
| Doctorate               |       |       | 3  | 2.5  |
| Master's degree         |       |       | 22 | 18.5 |
| Graduate                |       |       | 46 | 38.7 |
| College degree          |       |       | 12 | 10.1 |

Tablo 1 continue

|                                    |    |      |
|------------------------------------|----|------|
| High school &<br>below             | 36 | 30.3 |
| <hr/>                              |    |      |
| Marital Status                     |    |      |
| Married                            | 32 | 26.9 |
| Single                             | 82 | 68.9 |
| Divorced                           | 5  | 4.2  |
| <hr/>                              |    |      |
| Having children                    |    |      |
| Yes                                | 71 | 59.7 |
| No                                 | 48 | 40.3 |
| <hr/>                              |    |      |
| Working Status                     |    |      |
| Yes                                | 65 | 54.6 |
| No                                 | 28 | 23.5 |
| Student                            | 6  | 5.0  |
| Retired                            | 20 | 16.8 |
| <hr/>                              |    |      |
| Relation with the patient          |    |      |
| Parent                             | 7  | 5.9  |
| Spouse                             | 30 | 25.2 |
| Partner                            | 6  | 5.0  |
| Child                              | 76 | 63.9 |
| Living with the Patient            |    |      |
| Yes                                | 62 | 52.1 |
| No                                 | 57 | 47.9 |
| <hr/>                              |    |      |
| Receiving Psychological<br>Support |    |      |
| Yes                                | 21 | 17.6 |
| No                                 | 98 | 82.4 |
| <hr/>                              |    |      |
| Psychological Support<br>Need      |    |      |
| Yes                                | 81 | 68.1 |
| No                                 | 38 | 31.9 |
| <hr/>                              |    |      |

The sample of this research consisted of 119 individuals older than 18 who has a parent, partner, or child with a cancer diagnosis as it was represented in Table 1. Sample involved 77.3% ( $n=92$ ) women and 22.7% ( $n=27$ ) men who were father, mother, wife, husband, child or partner a cancer patient. The age range for the participants were between 18 to 72 while their patients' age range was between 18 to 83. The 31.9% of the participants were aged between 30-40 ( $n=38$ ), the following: 23.5% were aged between 41-50 ( $n=28$ ), 21.1% were aged between 51-60 ( $n=25$ ), 17.6% were aged between 18-29 ( $n=21$ ), and the last 5.9% were aged between 61-72 ( $n=7$ ) respectively. 31.9% of the patients of the participants were aged between 51-60 ( $n=38$ ), the following: 30.3% were aged between 61-70 ( $n=36$ ), 15.1% were aged between 71-83 ( $n=18$ ), 13.5% were aged between 41-50 ( $n=16$ ), 5% were aged between 18-29 ( $n=6$ ), and the last 4.2% were aged between 30-40 ( $n=5$ ) respectively. 38.7% of the participants had graduate degree ( $n=46$ ), while the list continues with 30.3% ( $n=36$ ) high school and below graduation, 18.5% ( $n=22$ ) master's degree, 10.1% ( $n=12$ ) college degree, and 2.5% ( $n=3$ ) doctorate degree. 26.9% of the participants were single ( $n=32$ ), while 68.9% of them were married ( $n=82$ ), and 4.2% of them were divorced ( $n=5$ ). 59.7% of the participants have children ( $n=71$ ). Almost half of the participants, 54.6% were actively working ( $n=65$ ) while, 23.5% of them were not working ( $n=28$ ), 5% of them were students ( $n=6$ ), and 16.8% of them were retired ( $n=20$ ). Most participants were the child of the patient who were 63.9% ( $n=76$ ). Spouses followed them with 25.3% ( $n=30$ ). 5% of the participants were partner ( $n=6$ ) and lastly, 5.9% of them were parents of the patient ( $n=7$ ). Nearly half of the participants, 52.1% were living with the patient ( $n=62$ ), while 47.9% ( $n=57$ ) of them were not living together. 82.4% of the participants ( $n=98$ ) reported that they did not receive psychological support after the diagnosis, and 68.1% of them ( $n=81$ ) responded that they thought that they need psychological support.

Table 2

*Descriptive and Cancer-related Characteristics of Patients*

|       | Mean  | SS | n  | %    |
|-------|-------|----|----|------|
| Age   | 58.26 |    |    |      |
| 18-29 |       |    | 6  | 5    |
| 30-40 |       |    | 5  | 4.2  |
| 41-50 |       |    | 16 | 13.5 |

Table 2 continue

|                   |    |      |
|-------------------|----|------|
| 51-60             | 38 | 31.9 |
| 61-70             | 36 | 30.3 |
| 71-83             | 18 | 15.1 |
| Cancer Type       |    |      |
| Appendicitis      | 1  | .8   |
| Bladder           | 3  | 2.5  |
| Blood             | 1  | .8   |
| Bone              | 2  | 1.7  |
| Bone marrow       | 4  | 3.4  |
| Breast            | 33 | 27.7 |
| Breast&Lymphoma   | 2  | 1.7  |
| Cervix            | 4  | 3.4  |
| Chest Cavity      | 1  | .8   |
| Gall Bladder      | 3  | 2.5  |
| Head & Neck       | 6  | 5    |
| Intestine         | 13 | 10.9 |
| Kidney            | 1  | .8   |
| Liver             | 2  | 1.7  |
| Lung              | 20 | 16.8 |
| Lymphoma          | 4  | 3.4  |
| No-name           | 1  | .8   |
| Ovary             | 3  | 2.5  |
| Pancreas          | 2  | 1.7  |
| Prostate          | 1  | .8   |
| Rectum            | 3  | 2.5  |
| Soft Tissue       | 1  | .8   |
| Stomach           | 5  | 4.2  |
| Testicals         | 1  | .8   |
| Tiroid            | 1  | .8   |
| Uterus            | 4  | 3.4  |
| Time of Diagnosis |    |      |
| 6 months          | 42 | 35.3 |

Table 2 continue

|                    |    |      |
|--------------------|----|------|
| 1 year             | 43 | 36.1 |
| 2 years            | 22 | 18.5 |
| 3-5 years          | 12 | 10.9 |
| Treatment Duration |    |      |
| 0-6 months         | 58 | 48.7 |
| 1 year             | 27 | 22.7 |
| More than 1 year   | 34 | 28.6 |
| Cancer Stage       |    |      |
| 1                  | 26 | 21.8 |
| 2                  | 34 | 28.6 |
| 3                  | 59 | 49.6 |

Participants' patients have 25 different types of cancer (see Table 2). The highest group was breast cancer patients with 27.7% ( $n=33$ ). Second was lung cancer 16.8% ( $n=20$ ), and intestine/colon cancer followed them as the third 10.9% ( $n=13$ ). Head and neck, bone marrow, cervix, rectum, gall bladder, ovary, and bone were other types that more than one people participants. One person of the participant did not share the cancer type. One patient has breast and lymphoma at the same time. 21.8% of the patients ( $n=26$ ) were in the first stage, 28.6% of them ( $n=34$ ) were in the second stage, and lastly, 49.6% of the patients ( $n=59$ ) were in the third stage when they were diagnosed with cancer. 35.3% of the participants' patients ( $n=42$ ) got diagnosed in last sixth months, while 36.1% of them ( $n=43$ ) got diagnosed in the last year. 18.5% of the caregivers' patients ( $n=22$ ) got diagnosed two years ago while the last group, 10.9% of the patients ( $n=12$ ) got diagnosed at most five years ago. These two groups' patients were getting treatment more than one year. 48.7% of patients ( $n=58$ ) started the treatment in last sixth months, while 22.7% ( $n=27$ ) were in the treatment between six months two one year. 28.6% of the patients ( $n=34$ ) were in the treatment more than one year. Descriptive and cancer-related characteristics of patients were presented in Table 2.

### 3.4. Data Collection Instruments

After Informed Consent Form (see Appendix A) were signed by the participants, Demographic Information Form (see Appendix B), Mental Health Continuum Scale – Short Form (see Appendix C), The Brief Resilience Scale (see Appendix D), Transformative Power of Suffering Scale (see Appendix E), and Dispositional Hope Scale (see Appendix F) were filled out. Later on, individual interviews with eight participants were carried out to understand the participants better. Second Informed Consent Form (see Appendix G) were filled to join the interview. Lastly, semi-structured interview form (see Appendix H) was presented.

**3.4.1. Demographic information form.** Demographic Information Form which was developed by the research was consisted of fifteen questions about age, gender, educational background, marital status, children, job information, cancer patients' diagnosis history, any psychological help after diagnosis, and need for psychological help (see Appendix B).

**3.4.2. Mental health continuum scale - short form (MHCS-SF).** The MHCS-SF was developed by Keyes et al. (2008) to assess well-being. Turkish adaptation of the scale was made by Demirci and Akın (2015). The Turkish name of the scale is "*Ruh Sağlığı Sürekliliği Ölçeği-Kısa Formu (RSS-KF)*." Six-points Likert type scale ranging from "*never*" (0) to "*every day*" (5) consists of 14 items, and 3 sub-scales. First three items measure emotional well-being, items between four and eight measures social well-being while the last six items measure psychological well-being. There was no reverse item in the scale. The points had added each other, and the total score refers mental health continuum. The lowest score of the scale was "0" while the highest score of the scale was "70". Marking one of the first three item, and six of last eleven items as "*almost every day*" (4) or "*every day*" (5) means *flourishing* while marking three of the first three items and six of last three items "*almost never*," and "*never*" indicates *languishing*. The rest of the results except these two was accepted in the normal range in terms of mental health continuum (Keyes, et. al., 2008). The Cronbach's alfa value of the scale was calculated as .90 in the Demirci and Akın work (2015) while in this study it was found as .93.

**3.4.3. The brief resilience scale (BRS).** The BRS was developed by Smith et. al. (2008), and Turkish adaptation of the scale was made by Doğan (2015), and it is called as “*Kısa Psikolojik Sağlamlık Ölçeği (KPSÖ)*” in Turkish The BRS is a 5-point Likert scale with one factor and 6 items range from “*strongly disagree*” (1) to “*strongly agree*” (5). Three of items (2, 4, and 6) are reverse items. The lowest score of the scale was “6” while the highest score of the scale was “36.” While the higher scores mean high level of resilience, lower scores indicate low level of resilience. The Cronbach’s alfa value of the Turkish version of BRS was .83 (Doğan, 2015). In this study BRS’s Cronbach alfa value was found as .74.

**3.4.4 Transformative power of suffering scale (TPSS).** TPSS was developed by Joshanloo (2014) to measure beliefs of the person, and the potential of being positively open to what life brings after the challenging experience. TPSS consists of one factor and 5 items. It is a 7-Likert type scale. There is no reverse item in the scale. Scores can change between “5” to “35” and higher score indicates that person has high level of beliefs about transformative power of suffering. The Turkish adaptation of the scale was made by Dinçer, Ekşi, Demirci, and Kardaş (2015), and called as “*Acının Dönüştürücü Gücü Ölçeği (ADGÖ)*.” TPSS was a reliable scale with its Cronbach’s alfa value which was .84 (Dinçer, Ekşi, Demirci, & Kardaş, 2015). In this study, it was calculated as .84 which was same with the Turkish adaptation study.

**3.4.5. Dispositional hope scale (DHS).** Synder and his colleagues (1991) developed a self-report DHS to check continuous hope levels of individual older than fifteen years old. There are two sub-scales in the scale; called as agency components (items 2, 9, 10, and 12) and pathway components (items 1, 4, 6, and 8). DHS consists of 12 items and there is one item for past, two items for present, and one item for future: in total four items for both sub-scales. Four items are irrelative with the hope. While calculating total score, these four items were not counted. The total score of eight items indicates hope score, and th lowest score of the scale was “8” while the highest score of the scale was “64” (Lopez, Floyd, Ulven, & Synder, 2000). Higher scores indicate high level of hope while lower scores indicate low level of hope. Turkish name of the scale is “*Sürekli Umut Ölçeği (SUÖ)*,” and its Turkish validity

and reliability study was made by Tarhan and Bacanlı (2015). In the Turkish adaptation study of DHS (Tarhan, & Bacanlı, 2015), Cronbach alfa value was .83 while in this study it was calculated as .75.

**3.4.6. Semi-structured interview form.** Semi-structured interview form, which was prepared by the researcher, consisted of 5 questions. The questions were the feelings about the first moment of the diagnosis, the most challenging emotions in the process, what are the strategies for dealing with the challenging emotions, how the pain that you are passing into change you, how was your hope during the process, and what are the dealing methods to keep hope alive.

### **3.5. Data Collection Procedure**

**3.5.1. Ethics and permissions.** The sample of this study was a sensitive group so that ethics was one of the most important aspects of conducting it. First, necessary permission to conduct this research was taken from Scientific Research and Publication Ethics Board of Bahcesehir University (see Appendix I). Informed Consent Form was the initial document of the study that participant had to fill. Informed Consent Form consisted of related information about the study, purpose of the study, procedure, possible outcomes, and contact information of the researcher. Participation to the study was voluntarily and every participant were adults who accept to be part of it. Personal information of the participant such as name, gender, age, educational and marital status were collected anonymously. During and after data collection process, ethical principles of Helsinki Declaration were followed.

**3.5.2. Data collection procedure.** Data collection process was held in two phases. In the first phase, quantitative data were collected and in the second phase, with the participants who participated to the quantitative research part, individual interviews were carried out. Quantitative data acquired both online and face-to-face ways. The link of the research survey was shared by researcher's social media and online communication channels which were Facebook, Instagram, WhatsApp, and Twitter/X. Researcher got contact with patient's caregivers and asked them to participate after informed them about the study in the hospitals that gave permission

to conduct study. Filling the study scales took approximately 20 minutes. Quantitative data was collected in between February and December in 2023.

After completing quantitative data, a semi-structured interview was conducted with eight participants (partners, spouses, children, and parents) who accepted online or face-to-face individual interview. Social media platforms, Facebook, WhatsApp groups, and Instagram were used to reach out people. Facebook cancer groups were the dominant channel that participants came to join the study. Eight people were included the individual interviews. Two of the interviews were face-to-face while four of them online meeting. Two of the interviews were held by phone call. In the interviews, items of semi-structured form prepared by the researcher asked to the participants. Interviews took 4 minutes to 15 minutes. Some of the participants were reluctant to open their feelings while some of them were very eager to speak and share their experiences. During the interviews researcher tried to support them to reveal their feelings in a deeper way however, it was difficult to talk about the process due to the reason that they were still in the process. Individual interviews were completed in November 2023.

Table 3

*Participants & Patients' Related Qualifications*

| <b>Code</b> | <b>Gender</b> | <b>Type of Relation</b> | <b>Cancer Type</b> | <b>Living Together with the Patient</b> |
|-------------|---------------|-------------------------|--------------------|-----------------------------------------|
| <b>A</b>    | Female        | Child                   | Brain              | No                                      |
| <b>B</b>    | Male          | Child                   | Testical           | Yes                                     |
| <b>C</b>    | Female        | Child                   | Bone               | Yes                                     |
| <b>D</b>    | Female        | Wife                    | Soft Tissue        | Yes                                     |
| <b>E</b>    | Female        | Child                   | Lung               | No                                      |
| <b>F</b>    | Female        | Child                   | Bone               | No                                      |
| <b>G</b>    | Female        | Child                   | Cervix             | No                                      |
| <b>H</b>    | Female        | Child                   | Tiroid             | No                                      |

In Table 3 participants and their patients' related qualifications were summarized. Participants involved of children of the patient ( $n=7$ ), and partner ( $n=1$ ). 3 of the participants were living with the patient during the treatment process, while 5

of them living separately. 1 one the participants was male, and 7 of the participants were female. Two of the participants' (E and A) both parents got diagnosed with cancer. However, they participated for one parent. One of these participants (E) lost his father because of cancer six months ago. The type of cancer of the patient were soft tissue ( $n=1$ ), cervix ( $n=1$ ), tiroid ( $n=1$ ), brain ( $n=1$ ), bone ( $n=2$ ), lung ( $n=1$ ), and testical ( $n=1$ ).

**3.5.3. Data analysis procedure.** In the data analysis process, SPSS 25 program was used to run statistical analysis of this study. First, to check whether the data distributed normal or not preliminary analysis were run. If skewness and kurtosis values were between the range of -1.5 to +1.5, it means that data distributed normally (Blanca, Arnau, López-Montiel, Bono, & Bendayan, 2013). The skewness values were changed between -.533 to .322. Kurtosis values were changed between -.753 to .478 which were in the excepted range. In addition, to check the reliability of four scales that used in study, Cronbach's Alfa value was calculated.

Hierarchical regression (HR) analyses were conducted to investigate the predictive role of socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope (agency and pathways) on mental health continuum in caregivers of cancer patients. Mostly, Mahalanobis Distance and Cook Distance techniques are utilized to determine outliers in the social sciences (Osborne & Overbay, 2019). Mahalanobis Distance changes according to the degrees of freedom in the  $\chi^2$  table which should be determined based on the number of independent variables (Tabachnick & Fidell, 2013). According to the  $\chi^2$  table, the highest value should be 32.910 in  $\alpha=.001$ , and it was yielded as 31.967. The findings indicated that there was no data above the  $\alpha=.001$  significance level. The Cook value should not be higher than 1 (Cook and Weisberg, 1982) and it was found as less than 1 in the present study. Hence, no data omitted in the study. Furthermore, the multicollinearity assumption must be tested to conduct the regression analysis. For this, the Variance Inflation Factor (VIF) and Tolerance values were checked. VIF value was changed between 1.18 to 1.77 which were between the expected range. A VIF value less than 10 and a tolerance value higher than .10 display

that there is no multicollinearity (Tabachnick & Fidell, 2013). As another multicollinearity assumption, the correlation between the variables was examined through Pearson Product Moments Correlation Coefficient Analysis. The correlation values are  $r < .85$  and below is an indication of no multicollinearity (Kline, 2011). Since the correlation values were not at that, it means that there is no multicollinearity issue among the variables of this study. Another assumption of regression analysis is that there should be no autocorrelation problem between consecutive observations or residual terms. Durbin-Watson value was calculated as 1.675 which were in the expected range that was between 1.5 to 2.5 (Tabachnick & Fidell, 2013).

In the second phase, first, the interviews were transcript into MS Word program. All personal informations were kept classified and the participants were coded A to H. Individual interviews were analyzed to make comments and to understand the quantitative results. The analysis of the content was made by using content analysis technique from qualitative study analysis methods (Kleinheksel, Rockich-Winston, Tawfik, & Wyatt, 2020). Initial step of the content analysis was the identifying units of meaning, following by labeling equal units (Kleinheksel, Rockich-Winston, Tawfik, & Wyatt, 2020). At this point repeated words, feelings, and conditions were determined. Third step of the analysis was grouping similar codes into a category, and lastly, making a theme by using categories in the previous step (Kleinheksel, Rockich-Winston, Tawfik, & Wyatt, 2020). After coding the participants, all answer were read carefully, and common concepts were listed according to the information that participants shared with the researcher. In the end, by analyzing the common themes, meaningful conclusions were made. The results were evaluated by the researcher and thesis advisor again and the analysis of the results process was completed.

### **3.6 Assumptions**

In this study, it was assumed that all people in the study participated voluntarily. They were genuine, honest, clear in their answers in both parts of the study. Lastly, it was assumed that five scales of the study measured what the researcher aimed to measure.

### 3.7 Limitations

This study has some limitations. Firstly, the scales used in this study were self-report measures which means that responses can depend on participants' thoughts, feelings, and genuineness of those (Razavi, 2001). Self-report measures rely on people's own perception about themselves (Razavi, 2001). It was assumed that they gave most close answers that explains their ideas or conditions.

Due to the reason that this research was conducted with caregivers, their psychological situation was very sensitive meaning that they can be emotional, vulnerable, or maybe angry because of the disease and treatment duration. In addition, some of the caregivers were sensitive and emotional so that sometimes their reactions were negative toward the study.

Another limitation was about the duration and content of the individual interviews. Although interviews were made to be only a support to the results, may be if they were deeper and longer, more efficient comments could be done. During the individual interviews, some interviews were shorter than expected duration. Participants had difficulty to express their feelings and giving deeper answers to semi-structured interview questions. If they were feeling more relaxed or have deeper understanding of how they felt, more detailed analysis could be done. These interviews can be seen a pilot study for further qualitative studies.

Sample of the study was adults older than 18 years old, being caregiver of a cancer patient, and other qualifications related with the cancer. However, female participants number was relatively high compared to the male participants, almost three times multiple. Caregivers were into four groups: parents, child, partners, and spouses. Nonetheless, child group was the dominant one, so that parents were slightly less. This reduces generalization of the results to the caregivers of cancer patient.

## Chapter 4

### Results

This study consisted of two stages which were qualitative and quantitative. In the first phase, demographic information form and four scales were filled by participants. After completing this phase, individual interviews were conducted with 8 people. In this section, firstly statistical analysis of the first phase was showed. Then, individual interviews were interpreted.

#### 4.1 Preliminary Analysis of the Study

First, descriptive characteristics of the measures used in the present study, means, standard deviations, minimum and maximum values were computed for Mental Health Continuum Scale-Short Form (MHCS-SF) and its subdimensions which were Emotional-Well-Being, Psychological Well-Being and Social Well-Being, Brief Resilience Scale (BRS), Transformative Power of Suffering Scale (TPSS) and Dispositional Hope Scale (DHS) and its two dimensions that are Agency Components and Pathways Components. Table 4 represented the results.

Table 4

*Descriptive Statistics for the Variables in the Study*

| Measures                                              | N   | Min  | Max   | Mean  | SD    | Skewness | Kurtosis |
|-------------------------------------------------------|-----|------|-------|-------|-------|----------|----------|
| <b>Mental Health Continuum Scale-Short Form-Total</b> | 119 | 5.00 | 89.00 | 44.99 | 16.30 | .041     | .043     |
| Emotional                                             | 119 | .00  | 19.00 | 8.38  | 4.25  | -.133    | -.478    |
| Social                                                | 119 | .00  | 35.00 | 13.4  | 7.10  | .322     | .091     |
| Psychological                                         | 119 | 5.00 | 42.00 | 23.2  | 7.28  | -.058    | .318     |
| <b>Brief Resilience Scale</b>                         | 119 | 6.00 | 30.00 | 7.67  | 4.55  | -.020    | .094     |
| <b>Transformative Power of Suffering Scale</b>        | 119 | 5.00 | 35.00 | 21.40 | 8.08  | -.164    | -.566    |

Table 3 continue

|                           |     |       |       |       |       |       |       |
|---------------------------|-----|-------|-------|-------|-------|-------|-------|
| <b>Dispositional Hope</b> | 119 | 14.00 | 64.00 | 46.10 | 11.10 | -.407 | -.605 |
| <b>Scale-Total</b>        |     |       |       |       |       |       |       |
| Agency                    | 119 | 8.00  | 32.00 | 23.97 | 5.80  | -.533 | -.511 |
| Components                |     |       |       |       |       |       |       |
| Pathway                   | 119 | 6.00  | 32.00 | 22.14 | 6.16  | -.266 | -.753 |
| Components                |     |       |       |       |       |       |       |

For checking normality of the data set, skewness and kurtosis values were utilized. MHCS-SF's was .041 in total and in detailed, MHCS-SH's emotional subscale skewness value was found -.133, social subscale's was .322, and psychological subscale's skewness value was -.058. BRS's skewness value was -.020, TPSS's was -.164, DHS's was -.407, and In detail, DHS agency component subscale's skewness value was -.533, pathways component subscale's skewness value was -.266. Kurtosis value of MHCS-SF's was .043, BRS was calculated as .094, TPSS's was -.566, and DHS's was -.605. MHCS'SF's subscales kurtosis values were .478 .091, and .318 while DHS's subscales kurtosis values were -.511 and -.753. Descriptive statistics and normality results of the scales were presented in Table 4.

It was seen that MHCS-SF's subscales: emotional  $8.38 \pm 4.25$ , social  $13.4 \pm 7.10$ , psychological  $23.2 \pm 7.28$ , and in total mean and standard deviation was calculated as  $44.99 \pm 16.30$ . To continue with, BRS's total score's mean, and standard deviation was calculated as  $17.67 \pm 4.55$ . TPSS's total score's mean, and standard deviation was calculated as  $21.40 \pm 8.08$ . DHS's subscale, Agency component' score's mean, and standard deviation was calculated as  $23.97 \pm 5.80$ , and the pathways component's  $22.14 \pm 6.16$ , in total  $46.10 \pm 11.10$ . All analysis were made based on 95% reliability level.

**4.1.2 Results of predictive variables of mental health continuum in caregivers of cancer patients.** Hierarchical regression analyses were employed to investigate the predictive role of socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope (both agency components and pathways components) on mental health

continuum in caregivers of cancer patients. Before proceeding to the hierarchical regression analysis, the relationship among study variables were tested with Pearson correlation coefficient analysis. The results were displayed in Table 5 and Table 6.



Table 5

*Correlations Results of Categorical variables and Mental Health Continuum*

| Variables                    | 1    | 2    | 3     | 4    | 5    | 6    | 7    | 8    | 9     | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17    | 18   | 19    | 20   |
|------------------------------|------|------|-------|------|------|------|------|------|-------|------|------|------|------|------|------|------|-------|------|-------|------|
| 1.MHC                        | 1.00 |      |       |      |      |      |      |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 2.Age                        | .08  | 1.00 |       |      |      |      |      |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 3.Female                     | -.02 | -.02 | 1.00  |      |      |      |      |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 4.Male                       | .02  | .02  | -1.00 | 1.00 |      |      |      |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 5.Parent                     | .07  | .29  | .05   | -.05 | 1.00 |      |      |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 6.Child                      | .06  | -.61 | .14   | -.14 | -.33 | 1.00 |      |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 7.Spouse                     | .10  | .34  | .15   | .15  | .15  | .77  | 1.00 |      |       |      |      |      |      |      |      |      |       |      |       |      |
| 8.Partner                    | -.01 | .23  | .06   | .06  | .06  | .31  | .13  | 1.00 |       |      |      |      |      |      |      |      |       |      |       |      |
| 9.Living Together            | .13  | .13  | .16   | .16  | .10  | .37  | .44  | .16  | 1.00  |      |      |      |      |      |      |      |       |      |       |      |
| 10. Living Separate          | -.13 | -.13 | .16   | -.16 | -.10 | .37  | -.44 | .16  | -1.00 | 1.00 |      |      |      |      |      |      |       |      |       |      |
| 11. 6 moths                  | .02  | -.07 | -.11  | .11  | -.03 | .03  | .02  | -.07 | .09   | -.09 | 1.00 |      |      |      |      |      |       |      |       |      |
| 12.6months-1 year            | -.02 | .07  | -.04  | .04  | .04  | -.01 | -.04 | .06  | -.16  | .16  | -.53 | 1.00 |      |      |      |      |       |      |       |      |
| 13.Morethan 1 year           | -.00 | .02  | .17   | -.17 | .00  | -.03 | .02  | .02  | .05   | -.05 | -.62 | -.34 | 1.00 |      |      |      |       |      |       |      |
| 14. 1. Stage                 | .16  | -.04 | -.10  | .10  | -.05 | .02  | -.07 | .16  | -.02  | .02  | .18  | -.19 | -.02 | 1.00 |      |      |       |      |       |      |
| 15. 2. stage                 | -.05 | -.00 | -.06  | .06  | .08  | .01  | -.02 | -.06 | .05   | -.05 | -.18 | .19  | .01  | -.33 | 1.00 |      |       |      |       |      |
| 16. 3. Stage                 | -.09 | .03  | .14   | -.14 | -.03 | -.02 | .08  | -.08 | -.03  | .03  | .09  | -.02 | .01  | -.52 | -.63 | 1.00 |       |      |       |      |
| 17. Support Need             | -.32 | -.05 | .23   | -.23 | .02  | -.07 | -.02 | .16  | .10   | -.10 | .02  | -.10 | .07  | -.07 | -.05 | .10  | 1.00  |      |       |      |
| 18.NoSupport<br>Need         | .32  | .05  | -.23  | .23  | -.02 | .07  | .02  | -.16 | -.10  | .10  | -.02 | .10  | -.07 | .07  | .05  | -.10 | -1.00 | 1.00 |       |      |
| 19.Receiving<br>Support      | -.04 | -.18 | .04   | -.04 | -.12 | .07  | .04  | -.12 | .14   | -.14 | -.05 | .01  | .05  | -.09 | -.10 | .16  | .18   | -.18 | 1.00  |      |
| 20. Not Receiving<br>Support | .04  | .18  | -.04  | .04  | .12  | -.07 | -.04 | .11  | -.14  | .14  | .05  | -.01 | -.05 | .09  | .10  | -.16 | -.18  | .18  | -1.00 | 1.00 |

*MHC: Mental Health Continuum*

In Table 6, relationship among mental health continuum and demographic variables (age, gender, relationship with the patient, treatment duration, cancer stage, living with the patient or not, psychological help need or not, receiving psychological help or not) was presented. Statistically significant correlation was not found between variables.

Table 6

*Correlation Results of Mental Health Continuum, Resilience, Transformative Power of Suffering, and Hope*

| <i>Variables</i>                    | 1.   | 2.   | 3.   | 4.   | 5.   | 6.   |
|-------------------------------------|------|------|------|------|------|------|
| 1.Mental Health Continuum           | 1.00 |      |      |      |      |      |
| 2.Resilience                        | .36  | 1.00 |      |      |      |      |
| 3.Transformative Power of Suffering | .36  | .11  | 1.00 |      |      |      |
| 4.Agency Component                  | .48  | .38  | .46  | 1.00 |      |      |
| 5.Pathways Component                | .52  | .49  | .32  | .73  | 1.00 |      |
| 6.Hope total                        | .54  | .47  | .42  | .92  | .93  | 1.00 |
| <i>p&lt;.01</i>                     |      |      |      |      |      |      |

Findings in Table 6 indicated that mental health continuum and resilience has a significant correlation in a positive way ( $r=.36$ ;  $p<.01$ ), as well as mental health continuum had a significant correlation with agency component of hope ( $r=.48$ ;  $p<.01$ ), pathways component of hope ( $r=.52$ ;  $p<.01$ ) and in addition to total hope ( $r=.54$ ;  $p<.01$ ). Secondly resilience had also meaningful correlation with transformative power of suffering ( $r=.36$ ;  $p<.01$ ). Following with this result, resilience also has a statically significant relationship with agency component of hope ( $r=.38$ ;  $p<.01$ ), pathways component of hope ( $r=.49$ ;  $p<.01$ ), and hope total ( $r=.47$ ;  $p<.01$ ). In addition, transformative power of suffering was positively correlated with agency

component of hope ( $r=.46$ ;  $p<.01$ ), pathways component of hope ( $r=.32$ ;  $p<.01$ ) and hope in total ( $r=.42$ ;  $p<.01$ ).

**4.1.3. Results of hierarchical regression analysis.** After Pearson Correlation analysis, to examine the role of socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support), resilience, transformative power of suffering, and hope (both agency components and pathways components) on mental health continuum in caregivers of cancer patients, hierarchical regression analysis was conducted. In the first model, socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support) were put. In the second model resilience was added. In the third model, transformative power of suffering was included. Lastly, hope was put as the last variable with its two dimensions: agency component and pathways component of hope. B value represents correlations with independent variables to dependent variable. In table 7, models that used in the analysis were summarized. *R* square value what percentage of variance in dependent variable is explained by the independent variables. In regression analysis adjusted *R* value is checked.

Table 7

*Hierarchical Regression Analysis Results for Mental Health Continuum of Caregivers of Cancer Patient (n=119)*

| Model          | $\beta$ | $t$   | $R$ | $R^2$ | $\Delta R^2$ | $F$  | $p$  |
|----------------|---------|-------|-----|-------|--------------|------|------|
| <b>Model 1</b> |         |       | .47 | .22   | .13          | 2.43 | .01* |
| (Constant)     |         | 5.70  |     |       |              |      |      |
| Age            | .17     | 1.49  |     |       |              |      |      |
| Male           | -.08    | -.84  |     |       |              |      |      |
| Parent         | -.04    | -.39  |     |       |              |      |      |
| Spouse         | -.29*   | -2.51 |     |       |              |      |      |
| Partner        | -.00    | -.01  |     |       |              |      |      |

Table 7 continue

|                       |       |       |     |     |     |      |      |
|-----------------------|-------|-------|-----|-----|-----|------|------|
| Living                | -.30* | -2.86 |     |     |     |      |      |
| Separately            |       |       |     |     |     |      |      |
| 6 moths-1 year        | .00   | -.01  |     |     |     |      |      |
| More than 1 year      | .00   | -.00  |     |     |     |      |      |
| 1. Stage              | .16   | 1.49  |     |     |     |      |      |
| 3. Stage              | .04   | .41   |     |     |     |      |      |
| NoSupport Need        | .36*  | 3.85  |     |     |     |      |      |
| Not Receiving Support | -.02  | -.21  |     |     |     |      |      |
| <b>Model 2</b>        |       |       | .52 | .27 | .18 | 2.96 | .00* |
| (Constant)            |       | 3.57  |     |     |     |      |      |
| Age                   | .09   | .78   |     |     |     |      |      |
| Male                  | -.06  | -.68  |     |     |     |      |      |
| Parent                | -.03  | -.28  |     |     |     |      |      |
| Spouse                | -.24* | -2.09 |     |     |     |      |      |
| Partner               | .05   | .52   |     |     |     |      |      |
| Living                | -.24* | -2.38 |     |     |     |      |      |
| Separately            |       |       |     |     |     |      |      |
| 6 moths-1 year        | .01   | .07   |     |     |     |      |      |
| More than 1 year      | .01   | .14   |     |     |     |      |      |
| 1. Stage              | .11   | 1.09  |     |     |     |      |      |
| 3. Stage              | .02   | .21   |     |     |     |      |      |
| No Support Need       | .32*  | 3.42  |     |     |     |      |      |
| Not Receiving Support | -.06  | -.71  |     |     |     |      |      |
| Resilience            | .26*  | 2.74  |     |     |     |      |      |
| <b>Model 3</b>        |       |       | .58 | .34 | .25 | 3.78 | .00* |
| (Constant)            |       | 1.74  |     |     |     |      |      |
| Age                   | .09   | .83   |     |     |     |      |      |
| Male                  | -.00  | -.03  |     |     |     |      |      |
| Parent                | -.05  | -.53  |     |     |     |      |      |
| Spouse                | -.28* | -2.52 |     |     |     |      |      |

Table 7 continue

|                       |       |       |     |     |     |      |      |
|-----------------------|-------|-------|-----|-----|-----|------|------|
| Partner               | .01   | .14   |     |     |     |      |      |
| Living Separately     | -.22* | -2.25 |     |     |     |      |      |
| 6 moths-1 year        | .02   | .23   |     |     |     |      |      |
| More than 1 year      | .05   | .57   |     |     |     |      |      |
| 1. Stage              | .14   | 1.37  |     |     |     |      |      |
| 3. Stage              | .06   | .57   |     |     |     |      |      |
| NoSupport Need        | .22*  | 2.29  |     |     |     |      |      |
| Not Receiving Support | -.04  | -.46  |     |     |     |      |      |
| Resilience            | .25*  | 2.74  |     |     |     |      |      |
| TPS                   | .29*  | 3.30  |     |     |     |      |      |
| <b>Model 4</b>        |       |       | .64 | .41 | .32 | 4.51 | .00* |
| (Constant)            |       | .80   |     |     |     |      |      |
| Age                   | .05   | .45   |     |     |     |      |      |
| Male                  | .05   | .58   |     |     |     |      |      |
| Parent                | -.09  | -1.01 |     |     |     |      |      |
| Spouse                | -.24* | -2.28 |     |     |     |      |      |
| Partner               | -.02  | -.25  |     |     |     |      |      |
| Living Separately     | -.17  | -1.75 |     |     |     |      |      |
| 6 moths-1 year        | -.01  | -.07  |     |     |     |      |      |
| More than 1 year      | .06   | .64   |     |     |     |      |      |
| 1. Stage              | .09   | .98   |     |     |     |      |      |
| 3. Stage              | .01   | .11   |     |     |     |      |      |
| NoSupport Need        | .17   | 1.85  |     |     |     |      |      |
| Not Receiving Support | -.03  | -.34  |     |     |     |      |      |
| Resilience            | .10   | 1.09  |     |     |     |      |      |
| TPS                   | .18   | 1.99  |     |     |     |      |      |
| Hope-Agency           | .11   | .88   |     |     |     |      |      |
| Hope-Pathways         | .28*  | 2.21  |     |     |     |      |      |

*\*p<.01 TPS: Transformative Power of Suffering*

First model consisted of socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support). It was concluded that being of the spouse of the patient ( $\beta=-.29$ ;  $t=-2.51$ ;  $p<.01$ ), living separately with the patient ( $\beta=-.30$ ;  $t=-2.86$ ;  $p<.01$ ) negatively, not need for psychological help ( $\beta=.36$ ;  $t=3.85$ ;  $p<.01$ ) positively, significantly predicts mental health continuum in the first model. It was found that age, gender, being child, receiving psychological support before, cancer stage, treatment duration has no significant effect on mental health continuum. Socio-demographic variables, cancer-related variables, and psychological conditions explains 22% of the variance in mental health continuum significantly in the first model ( $R^2 = .22$ ,  $F(12, 106)=2.43$ ,  $p>.01$ ).

In the second model, being spouse of the patient ( $\beta=-.24$ ;  $t=-2.09$ ;  $p<.01$ ) negatively, living separately with the patient ( $\beta=-.24$ ;  $t=-2.38$ ;  $p<.01$ ) negatively, not need for psychological help ( $\beta=.32$ ;  $t=3.42$ ;  $p<.01$ ) positively, and resilience ( $\beta=.26$ ;  $t=2.74$ ;  $p<.01$ ) positively, significantly predicts mental health continuum. It was revealed that age, gender, being child, partner or parent of the patient, receiving psychological support before, cancer stage, treatment duration has no significant effect on mental health continuum. Resilience with the socio-demographic variables, cancer-related variables, and psychological conditions explained 27% of the variance in mental health continuum in the second model ( $R^2 = .27$ ,  $F(1, 105)=7.53$ ,  $p>.01$ ). Resilience that was added to these variables increased the results 5% (Change in  $R^2 = .05$ ).

Being spouse of the patient ( $\beta=-.28$ ;  $t=-2.52$ ;  $p<.01$ ), living separate houses ( $\beta=-.22$ ;  $t=-2.25$ ;  $p<.01$ ), psychological support need ( $\beta=.22$ ;  $t=2.29$ ;  $p<.01$ ), and resilience ( $\beta=.25$ ;  $t=2.74$ ;  $p<.01$ ) continued to predict mental health continuum in the third model as well as transformative power of suffering ( $\beta=.29$ ;  $t=3.30$ ;  $p<.01$ ). The results indicated that age, gender, being child, partner, or parent of the patient, receiving psychological support before, cancer stage, treatment duration has no significant effect on mental health continuum. Previous variables and transformative power of suffering explained 34% of variance in mental health continuum in the third model ( $R^2 = .34$ ,

$F(1, 104)=10.87, p>.01$ ). Effect of transformative power of suffering was about 7% (Change in  $R^2 = .07$ ).

Lastly, in the fourth model, it was yielded that being spouse of the patient ( $\beta=-.24; t=-2.28; p<.01$ ), and dispositional hope ( $\beta=-.28; t=-2.21; p<.01$ ), predicted mental health continuum while resilience, transformative power of sufferings, living separately, psychological support need, and resilience did not predict mental health continuum anymore. In addition, age, gender, being child, partner, or parent of the patient, receiving psychological support before, cancer stage, treatment duration has no significant effect on mental health continuum. Being spouse of the patient and pathway component of hope explains 41% of the variance in mental health continuum in the last model ( $R^2 = .41, F(2, 102)=6.67, p>.01$ ). Hope's addition to the change was 7% (Change in  $R^2 = .07$ ).

**4.1.4 Results of individual interviews.** To support results, individual interviews were made to see how the caregivers feel and what were their feelings. This part of the study involved results of individual interviews which was made by using content analysis techniques. Answers of the participants were reported below. Five questions (see Appendix H) were asked to eight participants in individual interviews. First question was related with the initial emotions and responses after diagnosing, second question asked for determining most challenging situations and experiences in the process. Third question was about strategies to manage challenging feelings, while fourth question was about the change that comes with this process. The last question focused on hope and how to keep it. 8 people participated in this part of the study, and they were coded A to H. The results were shown in the Table 8.

Table 8

*Results of the Interviews: Categories & Themes*

| Theme                   | Categories                          | Codes | N |
|-------------------------|-------------------------------------|-------|---|
| <b>Initial Feelings</b> | Shock                               |       | 1 |
|                         | Sadness                             |       | 4 |
|                         | Anxiety                             |       | 2 |
|                         | Not knowing what to do /uncertainty |       | 2 |
|                         |                                     |       |   |

Table 8 continue

|                            |                                                 |                                                                     |   |
|----------------------------|-------------------------------------------------|---------------------------------------------------------------------|---|
| <b>Challenging Moments</b> | Denial                                          |                                                                     | 3 |
|                            | Sorrow                                          |                                                                     | 1 |
|                            | Anger                                           |                                                                     | 2 |
|                            | Feeling Distant                                 |                                                                     | 1 |
|                            | Terrified                                       |                                                                     | 1 |
|                            | Fear of Losing                                  |                                                                     | 3 |
|                            | Side Effects of the treatment                   |                                                                     | 6 |
|                            |                                                 | Nausea,                                                             | 1 |
|                            |                                                 | Pain,                                                               | 4 |
|                            |                                                 | Fatigue,                                                            | 1 |
|                            |                                                 | Emergency conditions,                                               | 1 |
|                            |                                                 | Not being able to function alone                                    | 2 |
|                            | Being Alone with the Patient During the Process | Fear of being left by the patient,                                  | 1 |
|                            |                                                 | Being alone with the patient                                        | 1 |
|                            | Hiding Negative Feelings from Patient           | Sadness,                                                            | 1 |
|                            |                                                 | Fear,                                                               | 1 |
|                            |                                                 | Hopelessness to the patient and the anger comes with this pressure, | 1 |
|                            |                                                 | Being strong for the patients                                       | 3 |
|                            | Waiting for the Doctor's Information            | Anxiety                                                             | 1 |
| <b>Strategies</b>          | Positive Strategies                             | Being calm                                                          | 1 |
|                            |                                                 | Being solution-focused                                              | 1 |
|                            |                                                 | Self-distraction                                                    | 4 |
|                            |                                                 | Not staying alone                                                   | 2 |
|                            |                                                 | Praying                                                             | 2 |
|                            |                                                 | Sharing feelings with others                                        | 2 |

Table 8 continue

|                          |           |                        |                                                                |   |
|--------------------------|-----------|------------------------|----------------------------------------------------------------|---|
|                          |           |                        | Receiving psychological support,                               | 1 |
|                          |           |                        | Receiving current and correct medical information from doctors | 3 |
|                          |           | Negative Strategies    | Taking antidepressants,                                        | 2 |
|                          |           |                        | Focusing on the patient rather than yourself                   | 3 |
|                          |           |                        | Being traumatized                                              | 1 |
| <b>Changes in Person</b> | <b>in</b> | Changes in Person      | Health Precautions                                             | 3 |
|                          |           |                        | Gaining new characteristics                                    | 4 |
|                          |           | Changes toward Disease | Spending more time with loved ones                             | 8 |
|                          |           |                        | Being prepared toward life                                     | 4 |
| <b>Hope</b>              |           | Being Hopeful          |                                                                | 7 |
|                          |           | Being Hopeless         | Hospitalization/Surgery Processes                              | 2 |

**4.1.4.1 Emotions in hearing diagnosis.** The common emotions that arise in the first moment of hearing the diagnosis were shock ( $n=2$ ), sadness ( $n=4$ ), anxiety( $n=2$ ), not knowing of what to do ( $n=2$ ), denial ( $n=3$ ), sorrow( $n=1$ ), anger( $n=2$ ), feeling distant ( $n=1$ ), terrified ( $n=1$ ), fear of losing ( $n=3$ ).

Participant B said that “*you think that you will never experience this kind of disease, but it happens to you.*” Participant B was health worker at this time, and he mentioned that he knew what can happen and how serious the situation was. Four of the participants’ (A, C, D, and H) most visible emotion was the uncertainty of what is going to happen. The reason that they felt shocked, sorrow and fear was the fact that they did not know the disease, treatment process, and the only realist truth was the possibility of losing the loved one with cancer. Three of the participants (E, G, and H) reported that they felt better after talking with the doctors and treatment plan was prepared. Participant H shared that she turned her fear into anger, and this anger changed her attitudes toward her mother. In addition, participant E reported that she

tried to hide the disease from the patient but when the chemotherapy started, she had to tell her. Only participant F reported future anxiety related with how the patient continue to her life. She said that she thought about how the life will be after the treatment instead of losing of her mother.

*“Whether she will be okay or not, can she use her feet again? Or she just stays in bed without her feet. Do they cut her feet? I just thought about this. How is it going to be if they cut her feet? Does she suffer a lot? I did not think about death. May be, I think being disabled is worse than death, I don’t know.”* (F, theme: Not knowing what to do/uncertainty of the process)

**4.1.4.2 Challenging moments in treatment process.** The most common theme of challenging moments was related with the side-effects of treatments ( $n=6$ ), Participants mentioned pain that patient suffer from ( $n=4$ ), the nausea ( $n=1$ ), fatigue ( $n=1$ ), not being able to function alone ( $n=2$ ), taking into emergency moments ( $n=1$ ).

The possibility of being left alone was another category that participants mentioned. Participant D talked about this concept especially because they have kids. What happens to the kids thought was added to the current emotions and worries. Thinking about all of this was one of the most challenging moments of the treatment process. Another one, participant G also mentioned this concept from another perspective by saying that:

*“I was alone during the hospitalization processes, I remember I cried sobbingly in the hospital garden”* (G, theme: being alone, code; being alone with the patient)

Another category that emerged under this subject was not showing negative feelings such as sadness (B), fear (B), hopelessness to the patient (D) and the anger comes with this pressure (D, E, & H).

*“I was angry. I was angry toward system, why it was happening to us. I am a kind of person who cannot control her feelings. I can easily get angry. While I was caregiving to my mother, sometimes I was angry. I was angry toward her why she thinks negatively, why she did not help me. Sometimes I was just angry because of this*

disease.” (D, theme: hiding negative feelings from the patient, code: anger comes with this pressure.)

Being strong for the patient, and most importantly feeling the pressure that comes from this afford was challenging according to participant B. Participant H mentioned that her mother does not want her due to the reason that when she is in the room, she did not show her feelings or let her mother to show hers. This was the most difficult part of the treatment for that participant.

*“My mom said to me that I don’t want to talk this with you. You reprimand me. I said I don’t reprimand you, there is not such a thing. If you feel better, it is OK. I will learn the news from my father or my brothers. She was looking graveyard for herself. She was afraid of losing her voice. She did not want me from her side. She did not want me for the surgery. I did not go neither. In some way I think I did not want to go. Otherwise, I would go no matter what. She did not say that she needed me. I did not let her to open her feelings maybe she did not want this”* (H, theme: hiding negative feelings from the patient, code: being strong for the patient).

Participant C reported that most challenging moments were the waiting room moments to learn the results of the treatment. Whether treatment worked or not and is there any metastasis thoughts made that moments the worst moments and make the caregiver feel more anxious just before learning the results.

*“Just before doctor explained the results, I was shaking whether he is going to say something bad. Yes, those moments, I remember very well that I had tremors with the envelopes in my hand. You cannot look at the inside of the envelopes. That was traumatic, those couple seconds”* (C, theme: waiting for the doctor’s information, code: anxiety)

In addition, like participant G reported that being alone in this waiting rooms was also challenging and if someone was with you in the room, it was easier.

**4.1.4.3 Strategies in challenging moments treatment process.** Being calm ( $n=1$ ), being solution-focused ( $n=1$ ), self-distraction ( $n=4$ ), not staying alone: dealing with the process with the help of loved ones such as sisters, brothers, and other family members ( $n=2$ ), praying ( $n=2$ ), sharing feelings with others ( $n=2$ ), receiving psychological support ( $n=1$ ), receiving current and correct medical information from doctors ( $n=1$ ), taking antidepressants ( $n=2$ ), focusing on the patient rather than yourself ( $n=3$ ) were the reported strategies for dealing with challenging moments in the process. Trusting hospital, doctors, nurses, and all health workers engaging with the patient was another important positive strategy which was seen in the interviews. Three participants (C, E, & F) reported that receiving information from trustable resources was made the process easier and feel better.

*“When my father got diagnosed with cancer, he was bad and advanced level. Doctors were not saying anything. However, when I my mother got diagnosed, doctors were very caring, and they helped me a lot. After I talked with them, I was relaxed. Now I knew that what is going to happen. I can fight with it. I was trusting the doctors. Now I feel better and hopeful.”* (D, category: positive strategies: code: Receiving current and correct medical information from doctors)

Participant B reported that he thought that he has a trauma after cancer treatment due to the fear that losing his father. This reaction was thought as negative strategy.

*“I think that I have a trauma. Fear of death, fear of losing my father. This affected me most”* (B, category: negative strategies, code: being traumatized)

**4.1.4.4. Changes in person resulting from cancer diagnosis.** All the participants reported that they become more careful about their health and their loved ones' health too. Spending time with the loved ones when there was still time was crucial according to the participants. The important subjects of life were changed after this experience.

Four of the participants (A, B, E, and F) mentioned that they became stronger, more mature and their perspective of life changed. They realized how short the life

was and the unimportance of small resentments. One of the participants said that she was more sensitive toward other people's issues after the diagnosis. Her empathy skills were better.

*"Previously, my pity toward others was low, now I am affected by even a small thing. I became sentimental"* (G, category: changes in person, code: gaining new characteristics)

Two of the participants reported (C, & F) that they realized that living close to the family members was important for them. Acting immediately, being in solidarity also helped them in this process.

Three of the participants reported that they realized the importance of finding the right doctor and hospital (C, E, & F). They became more knowledgeable about this topic after the cancer treatment.

**4.1.4.5 Hope during the treatment process.** Seven of the participants (A, B, D, E, F, G, & H) reported that their hope level was higher during the treatment process. Only participant C said that she felt very hopeless, and she demanded help from her family members to increase her hope. When seeing that treatment was working, her hope level increased.

*"I couldn't manage to keep my hope. I said my close ones that I am dying, please support me. Of course, they were with me during the hospitalization processes, but I was spending more time with my mom do to the reason that my home was the closest one to the hospital. We got through it as family. Otherwise, there was nothing I managed"* (C, theme: hope, category: being hopeless)

Participant B confessed that he only said loudly that his father could die because of cancer. He had never thought about this before.

*"Our hope was always high. We never lost it. Humans cannot say themselves even if they are afraid that there is death on the other side. Me for example, I said the first time that my father could die, loudly"* (B, theme: hope, category: being hopeful).

Participant H mentioned that her hope level only decreased before the surgery due to the reason that other disease that prevent surgery occurred. Participant E reported that health workers' attitude decreased her hope due to the reason that one nurse said, "in the end, everyone dies from cancer."



## **Chapter 5**

### **Discussion & Conclusion**

In the last chapter of this study, discussion of related findings regarding mental health continuum, resilience, transformative power of suffering, and hope in cancer patients' caregivers were represented with the conclusion and recommendations.

#### **5.1 Discussion of the Predictors of Mental Health Continuum**

Firstly, the results of the correlation and regression analyses among socio-demographic variables (age, gender, caregivers of patient, and living conditions with the patient), cancer-related variables (time of diagnosis, stage of cancer), psychological conditions (receiving help after diagnosis, needing psychological support) and mental health continuum were presented and then interpreted. It was not found any significant correlation between age and MHC and age did not predict MHC. Lee et. al. (2013) found that young people showed more psychological distress compared to the older caregivers. Also, Kim and Spillers' (2010) study demonstrated that elder people handle the treatment process better and strongly. Another study that was conducted by Compas, Worsham, Ey and Howell (1996) consisted young adults aged between 19-32 was another example which older children were chosen as caregivers. Their study claimed that preadolescences were better in adaptation compared to adolescence and young adults (Compas, Worsham, Ey, & Howell, 1996). In this study, the crowded group regarding age, was 30-40 with percentage of 31.9% ( $n=38$ ,  $M=41.82$ ). The age mean of the children caregivers was high, so this could be a reason for not found a significant result regarding being child of the patient and MHC. As well as the Lee et. al. (2013) study, this group's MHC level was high as well as their resilience level. Although age did not predict MHC, it could be said that elder people were handling the cancer caregiver process better. In addition, sample of adult children in this study consisted of people who has social support, and they were actively working meaning that they have distraction and strength resources.

The results of the current study revealed that gender and MHC were not correlated with each other, and gender did not predicted MHC in cancer patients'

caregivers. Inconsistent with these findings, a study showed that female's distress level, anxiety and depression symptoms were high compared to men (Alacacioglu, Tarhan, Alacacioglu, Dirican, & Yilmaz, 2013). The inequality between number of females and males in the sample of this study could be the reason that no significant result was seen. Another study compared gender in terms of caregiving which was Clark et. al., (2015) work, mentioned that mothers' experience of caregiver more distressing and anxious rather than fathers due to the reason that they spend more time with the patient child. However, in this study no significant correlation between gender and MHC was found. The reason for the difference between this study and previous study might be because of the low rate of parent participants in the sample. On the other hand, Fotiadou, Barlow, Powell, and Langton (2008) study focused on both parents to see any gender difference. Differently from Clark et. al. study (2015), they found that both mothers and fathers suffer from sleep disturbances, low life satisfaction level and eating problem. Their findings claimed that there was no gender difference correspondence with this study. This study sample mostly consisted of adult children of the patients. In Turkey, when a parent got diagnosed with cancer both children are taking care of the patient in corporation whether they are daughters or sons. They go the hospital together; they divide the caring process into number of siblings does not matter their gender and they are splitting the bills. Due to this reason, in Turkey population, gender does not differ in being responsible of the patient, this could be the reason that any predictive role of gender was not found.

Correlation between being parent, being spouse and being child of the patient and MHC was not found in this study. However, being spouse of the patient negatively predicted MHC while being parent and being child of the patient did not predict MHC. Contrary to the findings of the present study, Deimling, Bass, Townsend, and Noelker's (1989) study indicated that adult children showed psychological burden signs as much as spouses. In addition, at this point caregivers' occupation status were seen as a influential factor on MHC. To be clearer, Compas, Worsham, Ey and Howell (1996) study mentioned that when parents were working during the treatment their optimism level was high while their stress level was low. In this study, sample age was higher compared to the previous ones that was conducted with child of the patients which was the dominant group. This meaning that profile of the sample was mostly working and married adults with their own families. As well as Compas, Worsham,

Ey and Howell's (1996) work, this study sample's MHC level was high. This might be the reason that there were no significant results in terms of being child of the patient and MHC. Being child did not differ from being parent in the caregiving process because adult children profile was similar with the previous parent caregiver profile. It was concluded that both type of closeness did not predict MHC. This study can give a basement to the future studies with its age range that differed from previous studies with children caregivers.

Being spouse of the patient predicted MHC in a negative way, according to the results of this study. Being spouse of the patient brought difficult roles that make life harder and Hilton, Crawford, and Tarko (2000) mentioned that treatment process requires another type of adaption for parents, and they gained new set of skills such as decision making, keeping their lives etc. Some studies indicated a positive correlation between spousal role and resilience in cancer caregiving (Jia, 2015; Cassidy, 2013; Tang et al., 2013). Similarly, Samms (1999) and Schmid-Büchi, Halfens, Dassen, & van den Borne's (2008) studies that focused on partners' burdens and mental health found that continue to live was difficult after the diagnosis. In correspondence with these studies, the results supported the idea that being spouse of the patient negatively and resilience positively predicted mental health continuum of cancer patients' caregivers meaning that if resilience level was high, mental health continuum level of caregiver was also high while being spouse of the patient negatively influenced mental health continuum. On the other hand, being spouse of the patients negatively predicted caregivers' mental health continuum in third model in this study. Being spouse of the patients requires living together with the patient and taking more responsibility during the process. It increased seeing the painful moments, fear of being alone if something happens, while decreases hope according to individual interviews.

In this study, participants mentioned the financial burden of the treatment process meaning that cancer treatment requires a financial resource and caregivers should be prepared to pay more than they expected. In the literature, one of the stressful reality of caregivers was financial worries (Lauzier et. al., 2005; Li, Chiang, Xu, Xu, & Loke, 2015). Hospitalization process, surgery possibility, increasing bills with screening tests and new techniques of treatments required money. Participants (D, & H) shared their initial diagnosis process that involved other tests for other disease which were expensive and tiring. Participant F and M mentioned that an expansive

surgery just pop up with the diagnosis and they had to pay it from their resources without health insurance. Therefore, caregivers felt themselves to be prepared financially for further diagnosis or metastasis or treatments.

It was not found any significant correlation between living condition and MHC. However, living separately with the patient positively predicted MHC. According to Deimling, Bass, Townsend, and Noelker (1989), living with the patient affected psychological burden of caregivers. In the same study, they claimed that when children of the patient lived with the patient, their caregiver burden level was not different from spouses. In Turkey, children mostly live with their parent if they are not married and whether they are married or not they live together with their parents if parents got diagnosed with a life threatening disease. According to analysis results, living separately positively predicted MHC in Turkey sample. Due to the reason that this study sample may live together with the patient, the living condition were not found correlated with MHC. However, according to results, when they live separately, their MHC level was high. Similarly, in individual interviews, participants mentioned that the most challenging moments were seeing the patient in pain, witnessing the hospitalization processes, these moments negatively affected caregivers. When they live with the patient, the possibility of witnessing these moment increases, which could be reason that MHC level was high when caregivers did not live with the patient. As it mentioned above, Deimling, Bass, Townsend, and Noelker (1989) studied on the caregiver burden and living with the patient. Quantitative results of this study also supported that living separately positively predicted MHC of caregivers. In addition, this result can be related with the theme of challenging moments in individual interviews. Participants mentioned that the hardest part of the treatment were the seeing the patient in pain, not functioning in himself/herself. This can increase MHC scores of caregivers. Also, they noticed that they needed to close with the patient to act immediately if something happens. When they live separately the possibility of witnessing this kind of moments decreases and may be this is the reason that living separately with the patients negatively predicted MHC.

It was not found any significant relationship between time of diagnosis and MHC. Also, it was concluded that time of diagnosis did not predicted MHC. However, Kim and Spillers' (2010) found that distress level of caregivers was higher in the first diagnosis period while it reduced with time in treatment duration. On the other hand,

Lee et al.'s (2013) study in Taiwan reported that caregivers' psychological distress level was low in the initial diagnosis. In Turkey, health system, doctors asked for detailed screening test, and it takes time to complete all the test and receive diagnosis. During this process, caregivers spend long times in the hospitals with patient. They are informed before running screening test, and doctors explain them all possible outcomes. They might have time for processing the disease and prepare them for undesired results. Although, in the correlation and regression analysis any significant results were not found, in individual interviews, in correspondence with Kim and Spillers' (2010) study, participants mentioned that they felt relaxed after doctors prepared them a treatment plan and treatment started while their distress level was high with the initial feelings of fear, shocked, and sorrow. Although Lee et al. (2013) had thought that their result might be because of Taiwanese people conservative structure, the results of this study did not support them, nevertheless the idea that Turkish culture was conservative, too. Trust toward health system and doctors may help the caregivers to deal with initial negative feelings and using their sources to fight with this disease. In the individual interviews, the most visible feelings of the participants were also fear of loss, anxiety, uncertainty, and responsibility. They mentioned that lots of feelings came at the first moments but after the initial shock, fear and uncertainty were the dominant ones. They reported that when they listen to the doctor and they learned what was going to happen, they felt relief. Similarly, Hilton, Crawford, and Tarko (2000) summarized initial feelings of husbands after their wives got diagnosed with breast cancer and the feelings were uncertainty, fear of loss, anger, responsibility, and anxiety. At this point, it can be mentioned about Kübler-Ross model due to the reason that caregivers' experience related with the disease was similar with the grief process. Both processes involve shock, denial, anger, depression, bargaining, acceptance, and integration (Kübler-Ross, 1975). Caregivers reported that firstly they experienced shock and denial at the first diagnosis and then sometimes anger followed these initial feelings because caregivers could not answer the question of "why us?" After they receive information from doctors their process took a step to relief and hope part. In the grief process it could be related with bargaining and acceptance. In addition, some of the participants mentioned depressive feelings such as deep sorrow, hopelessness etc. In a summary, caregiving process is a heavy process to deal with as well as grief process in terms of feelings and experiences.

It was not found any significant correlation between cancer stage and MHC. Stage of cancer did not predict MHC in caregivers. It was examined that whether cancer stage predicts MHC with the occurrence of other variables which were resilience, TPS and hope. The result stayed same meaning that it was not found any significant correlation between cancer stage, MHC, resilience, TPS and hope. However, in the literature, previous studies were controversial about the connection between cancer stage, MHC, resilience, and hope (Simpson et. al., 2015; Bergqvist & Strang, 2019). To start with the resilience, Simpson et al. (2015) revealed that resilience in caregivers could follow its own way separately from the cancer stage. Bergqvist and Strang (2019) findings indicated that different from the other concepts such as resilience or quality of life in caregivers, hope did not differ with the cancer stage. Dionne-Odom and her colleagues (2021) study on resilience in advanced patients' caregivers mentioned that high resilience help caregivers to maintain their mental health and being prepared to further steps. Their study consisted of stage three and four patients' caregivers; they claimed that resilience has a protective role toward negative effects of diagnosis. In other words, resilience positively correlated with mental health continuum separately from the stage. Moreover, Dionne-Odom et al.'s (2021) study conducted with advanced patient, and this study with early-stage patient, predictive role of resilience did not change. Turkish people's spiritual background, and more optimistic characteristic compared to individual communities could be related with this outcome. In the individual interviews, they shared that praying, and believing God, help them a lot and it raised their hope while it gave them strength to overcome. Their belief system involves an omnipotent creator, and this creator can help their patient to heal whether in the earlier or terminal stage.

Although, there was no significant result between psychological help before and MHC, a positive significant correlation between not need for psychological help and MHC was found. In addition, while MHC was not predicted by receiving psychological help before, not need for psychological support positively predicted MHC. According to the reply to demographic information form, most of the caregivers responded that they did not receive any psychological support before ( $n=98$ ), however majority of them reported that they needed psychological support ( $n=81$ ). Turkish people reluctant characteristic toward receiving psychological help might be the reason for this outcome due to the reason that they have still prejudices toward seeking help

from a therapist because of the fear of being labelled as mentally ill. However, it is known that cancer negatively impacts psychology of the patients' caregivers. The most common impacts were anxiety, depression, and distress in caregivers (Stenberg, Ruland, & Miaskowski, 2010; Pitceathly, & Maguire, 2003; Kurtz, Given, Given, & Kurtz., 1994). These negative effects were taken into a basement, and it was asked to the participants whether they need psychological support, or they receive it before. Findings of this study supported the idea that caregivers thought that they were affected by the diagnosis negatively and they need psychological help. In the support with this claim, in the results, significant positive correlation was found between not need for psychological help and MHC. When participants did not think that they did not need psychological support, their mental health seems well for them. According to hospital chemotherapy and oncology unit observations, Turkey consists of conservative people that help and show unity toward each other. When someone suffers from serious live event, neighbors, relatives, and friends comes together to support each other. This community characteristic may be the basement for these results. This unity and supporting behavior could serve as a protective factor for caregivers to keep their MHC level high. Therefore, they might not need psychological help because they think that they have social support.

Income level of the participants was not asked in this study due to the reason that education levels were asked, and it was found that participants' educational level were close to each other. 69.8% of the participants had university education. It was assumed that their income levels were similar. During the individual interviews it was realized that whether their patients' treatment was in private hospital or state hospital, caregivers MHC was related with the health workers' attitudes besides physical settings. One of the participant, participant D, joined the study from France, and her husband got treatment from state hospital, two of them from Ankara (E, & H), their process were in state hospital too, three of them from İstanbul (C, F, B) and their patients got treatment in private hospital, lastly one of them (A), joined from Sakarya and her patients got treatment in state hospital, too. Eight of them reactions were mostly related with attitudes, none of them mentioned about psychical settings. Moreover, participant D mentioned that she experienced two different state hospitals and there was a huge difference between doctors and nurses' attitudes, that affected

her in a positive way strongly. As a comment, it could be said that health workers' approaches can have an effect on MHC.

In this study, a positive correlation between resilience and MHC was found. In addition, it was yielded that resilience positively predicted MHC. Gözüml and Akçay (2005) investigated the needs of caregivers in Turkey, their results suggested that caregivers felt less depressed, and quality of life scores were higher compared to the patients as well as their positive thoughts about their health. Üzar-Özçetin and Dursun's (2020) study claimed that resilience could prevent caregiver burden. Li, Wang, Yin, and Li's (2018) study on family resilience in early-stage patients and found that resilience level positively correlated with caregivers and patients' resilience while negatively correlated with anxiety, depression, caregiver burden and stress. Similarly, in this study caregivers' MHC scores were high and their general perception about their mental health were positive. The community support system could work in this point also meaning that caregivers' resilience and MHC level were supported by social systems in Turkey. One group of the protective factors for resilience was environmental factors (Masten, & Reed, 2002). In turkey, social coherence is high, and it might help caregivers to sustain their mental health with the power of resilience. In addition, caregivers' resilience level was high as well as their MHC. It was concluded that resilience helps caregivers to prevent themselves negative feelings and keep their emotional, psychological, and social well-being levels high.

In individual interviews, participants also mentioned the cancer diagnosis as a traumatic event. They talked about some criteria related with the trauma such as the world stopped rotation, anxiety, distress (Groß, Dahl, Moum, & Fosså, 2005; Rhee et al., 2008), uncertainty and waiting, disruption to daily life (Lang, France, Williams, Humphris, & Wells, 2013). Participant B said that he had a traumatic process which will continue to affect him, and he will not be the same person before the diagnosis and his whole life perspective changed. In a similar vein, Hou, Law, and Fielding (2009) claimed that cancer diagnosis had power to lead a trauma in caregivers. Stenberg, Ruland, and Miaskowski (2010) stated that psychological problems that caregivers encountered with during the treatment process had the potential to turn into physical or psychosocial problems and be permanent.

There was a positive correlation between TPS and MHC. TPS positively predicted MHC. Also, TPS and resilience together had a role in prediction of MHC

with other variables such as being spouse of the patient, living separately from the patient, and need for psychological help. Mental health continuum involved emotional well-being, psychological well-being, and social well-being, as well as not having anxiety, and depression. In addition, continuing to manage negative feelings such as stress. Li, Wang, Yin, and Li's (2018) findings revealed the positive effect of resilience on handling the treatment process by becoming more stronger after it. TPS was also related with gaining new positive characteristic (Tedeschi, & Calhoun, 1996). Brown et al. (2009) investigated compassion of caregivers and their mortality rates, and they found that this compassion and caregiving activity reduced mortality rate in caregivers. Kim, Baker, Spillers, and Wellisch's (2006) study showed that being caregiver to a cancer patient make people more resilient, more adaptive and helped them to gain new positive qualifications such as being more careful in terms of health. In correspondence with these studies, the reason that TPS positively predicts MHC might be that caregivers became stronger, more precautions, their life perspectives changed according to individual interviews that was mentioned below. Several research findings regarding partners revealed that partners' post-traumatic growth level increased after experiencing a life-threatening disease (Manne et. al., 2004; Zwahlen, Hagenbuch, Carley, Jenewein, & Buchi, 2010). In addition, Hwang et al. (2018) mentioned that people's ability to cope with traumatic and distressful life events with psychosocial growth. Moreover, Karatzias, Jowett, Yan, Reaside, and Howard (2017) found that resilience helped to protect psychological and physical health in terms of life-threatening disease. Findings of this study supported these claims by showing that TPS level of the participants were relatively high, while their MHC and resilience level were high, too. When being spouse of the caregiver, resilience level and TPS were together, the results showed that they significantly predicted MHC. Alacacioğlu, Dirican and Yılmaz (2013) findings supported the idea that gender differs in caregivers' mental health as well as Alkan et al.'s (2018) study on post traumatic growth. They found that being female and older than 40 years old might influence post traumatic growth. However according to this study result, any correlation between gender and TPS was not found as well as gender did not predict MHC as it explained in detail above.

In the individual interviews, participants mentioned that they changed with this incidence. They became people who take more precautions, who observes themselves

and their loved ones in terms of health more. They reported that values, their expectations from life and their strength level also changed in correspondence with Paul (2014), Joshanloo (2014) and Carell and Kidd's (2019) studies. In addition to that, Joseph, and Linley (2008) and Tedeschi and Calhoun's (2004) study about TPS supported the idea that people's ability to connect other people increases after a life-threatening event. Carell and Kidd (2019) claimed that suffering have the potential to transform people in a better way. Joshanloo (2014) turned this theme into a term which was transformative power of suffering. Participants sharing about the effects of cancer diagnosis on them also contributed this claim because of the reason that participants' mentions about receiving other's support helped them to deal with cancer.

In this study, one of the codes of changes in person was spending more time with loves and being prepared toward life. All participants mentioned that their perspective toward life changed after diagnosis as well as their priorities. Their perspective of life changed with the cancer diagnosis, and they said that they realized how short is life, and what does really matter. Cancer diagnosis have transformative effects on both people and people's perspective toward life. Ness et al. (1988), Andrykowski and Hunt (1993), and Bower et al. (2005) studies claimed that caregivers' tendency to find more meaning in life and showing more effort to live a life with purpose increased after diagnosis.

The second category under the change in people was changes in person which were coded as health precautions and gaining new characteristic. This result was parallel with the Kim, Baker, Spillers, and Wellisch's (2006) findings that claimed that being caregivers made positive changes in people characteristics. Almost half of the participants reported that were more careful and observing about their and their close ones' health. Half of the participants mentioned that they are stronger and more prepared toward life after the diagnosis. Moreover, in a more recent study which was Kristanti et al.'s (2019) study spoke on family bounding and values. Almost all participants' answers supported this claim due to the reason that they mentioned that they realized what is important for them. Therefore, they decided to spend more time with their loved ones.

A significant positive correlation between hope and MHC was found. In addition, one of the components of hope which was pathways component took a predictive role on MHC with another variable which was being spouse of the patient.

Utne, Miaskowski, Paul and Rustøen (2013) found that hope was a protective factor toward caregiver burden as a determinant concept similarly with this study. It means that spouses of the patients' hope levels were high in terms of trying to find a solution to be better, and this helped them to maintain their MHC. This result was separately handled from age, gender, being child of the patient, receiving psychological help before, cancer stage, living with the patient, treatment duration, psychological help need, resilience, and transformative power of suffering. Being spouse of the patient and pathways component of hope in terms of mental health continuum of caregivers were the most explanative outcome. These results were consistent with previous study (Utne, Miaskowski, Paul, & Rustøen 2013) yielded that hope helped caregivers to keep themselves mentally healthy, and less stressful. In the correlation analysis results, it was not seen any significant correlation with the caregivers' hope level and cancer stage as well as previous study of Bergqvist and Strang (2019). They reported that hope level was always high nevertheless being caregiver of advanced or terminal stage patient. Although, this study was conducted with early-stage patients' caregivers, hope level did not differ from advanced stage patients' caregivers due to the reason that it was no significant result regarding correlation between caregivers' hope level and cancer stage.

In the individual interviews, hope theme was categorized in two ways: being hopeful and being hopeless. Being hopeful was the dominant category due to the reason that all participants (except C) mentioned that their hope level were always high much the same with the findings of Duggleby and colleagues (2007) and Bergqvist and Strang (2019). Being hopeless was worked by Tokem, Özçelik and Cıçık (2015) and their findings suggested that when social support increased, hopelessness decreased in caregivers. Similarly, participant C said that although her hope level was very low during the treatment process, with the help of her loved ones, sisters, friends, and her children helped her to increase her hope level.

In correlation analysis between variables indicated a significant positive correlation between transformative power of suffering and both components of hope which were agency and pathways as well as hope itself. The results of Nouzari, Najafi, and Momennasab's (2019) study indicated that hope had a significant effect on post-traumatic growth in caregivers. The most visible result that showed it were noticing new pathways in life, and personal growth. This study supported their findings. Snyder

(1996) mentioned dispositional hope, meaning reactions to more similar event in life in terms of hope, that could turn into state hope to generalize different areas in life. In this study, Snyder's Dispositional Hope Scale was used, and it was yielded that level of both components of hope related with desired goals, and ability to finding ways to achieve those goals. Scores of both component of hope were high in caregivers when transformative power of suffering level was high, too. It was claimed that caregivers faced with a life-threatening event, they have capacity to undergo this terrifying incidence with personal power and adaptation if they are hopeful. The results of Surucu et al.'s (2017) study showed that adult children caregivers' hope level was high in Turkish population. Similarly, with this study, the results of current study also indicated that hope level of caregivers of early-stage patients were high, too.

In the individual interviews, initial feelings, challenging moments, strategies, changes in person and hope themes were searched. Under the theme of challenging moments, four categories were analyzed which were side effects of the treatments, being alone with the patient during the process, hiding negative feelings from patient, and waiting for the doctor's information. Strategies were separated into two categories which were positive strategies such as being calm, praying, not staying alone, receiving current and correct medical information form doctors, and negative strategies for being traumatized. Changes were completed in two categories; changes in person such as health precautions and gaining new characteristics and changes toward disease such as being prepared toward life and spending more time with loved ones. The last theme was determined as hope involved two categories: being hopeful and being hopeless.

To summarize, while being spouse of the patient, and living separately with the patient negatively predicted mental health continuum in caregivers in the first step, not need for psychological help predicted MHC positively. Resilience's role was calculated as 5% percent, transformative power of suffering role was calculated as 7% percent as same as the hope in prediction of mental health continuum in addition to being souse of the patient, living separately, and not need for psychological help.

## 5.2 Conclusion

In this study, which investigated predictive role of resilience, transformative power of suffering, and hope on mental health continuum, the following results were achieved:

### Qualitative Results

- A significant correlation with living separately with the patient and mental health continuum was found.
- A significant correlation with being spouse of the patient and mental health continuum was found.
- There was no significant correlation between treatment duration and mental health continuum, resilience, transformative power of suffering, and hope.
- There was no significant correlation between cancer stage and mental health continuum, resilience, transformative power of suffering, and hope.
- There was no significant correlation between being parent and mental health continuum, resilience, transformative power of suffering, and hope in.
- A significant correlation between not receiving any psychological help before and need of psychological support was found.
- A significant correlation between not receiving psychological help before, need of psychological help and mental health continuum was found.
- There was no significant correlation between age, gender, being child, receiving psychological support before, cancer stage, treatment duration and mental health continuum of caregivers.
- There was a positive significant correlation between resilience and mental health continuum of caregivers.
- There was a positive significant correlation between transformative power of suffering and mental health continuum of caregivers.
- There was a positive significant correlation between hope and mental health continuum of caregivers.
- There was no significant predictive role of gender in mental health continuum, resilience, transformative power of suffering, and hope.

- There was no significant prediction of age in mental health continuum, resilience, transformative power of suffering, and hope.
- Being spouse of the patient predicted mental health continuum of caregivers negatively.
- Living separately with the patient predicted mental health continuum of caregivers positively.
- No need for psychological help positively predicted mental health continuum of caregivers.

### Quantitative Results

- Initial feelings of caregivers after cancer diagnosis were shock, sadness, anxiety, not knowing what to do, uncertainty of the process, denial, sorrow, anger, feeling distant, terrified, and fear of losing.
- The most challenging moments of caregivers were divided into four which were side effects of the treatment, being alone with the patient during the process, hiding negative emotions from patient, and waiting for doctor's information.
- Side effects of the treatment were nausea, pain, fatigue, emergency conditions, and not being able to function alone.
- Being alone with the patient during the process was explained in two ways which were fear of being left by the patient and being alone with the patient.
- Hiding negative feelings from the patient reflected by feelings of sadness, fear, hopelessness to the patient and the anger comes with this pressure and being strong for the patient.
- Waiting for doctor's information was hard due to anxiety about what is going to happen next.
- Strategies toward challenging moments were categorized into two groups which were positive strategies and negative strategies.
- Positive strategies involved being calm, being solution-focused, self-distraction, not staying alone, praying, sharing feelings with others, receiving psychological help, receiving current and correct medical information from

doctors, taking antidepressants, and focusing on the patient rather than themselves.

- Only negative strategy was found only being traumatized because of the process.
- Changes in person was divided into two categories: changes in person and changes toward disease.
- Changes in people were health precautions and gaining new characteristic.
- Changes toward disease were spending more time with loved ones and being prepared toward life.
- Hope was seen in two ways which were being hopeful and being hopelessness.

### **5.3 Recommendations**

#### **5.3.1 Recommendations for researchers**

1. In this study, predictive roles of resilience, transformative power of suffering and hope on mental health continuum of caregivers of cancer patient were investigated. Investigation of predictive role of quality of life, decision making process on mental health continuum of caregivers may be useful.
2. In this study, sample group consisted of early-stage patients' caregivers. Sample group can enlarge to involve advanced stage patients' caregivers. Therefore, comparison between stages can be done.
3. Literature involved hope, resilience, well-being studies regarding caregivers of cancer patients. However, transformative power of suffering and mental health continuum studies was limited. More research is needed on this subject. Sample group of this study were relatively small due to the stage and treatment duration restrictions. To generalize conclusion into whole population, studies with larger sample groups can be conducted in future.
4. Caregivers in this study was consisted of children, parents, partners, and spouses of the patients. Sisters, brothers, and friends can be involved in further studies.
5. Percentages of males and parents were limited in the sample group, future studies can involve more equal groups in terms of numbers, and distribution.

6. This study involved three groups of caregivers: parents, children, and partners/spouses of the patients. Adult children of the patients and parents of adult patients were studied less in the field. Further studies with these groups can be conducted.

### **5.3.2. Recommendations for the practitioner**

1. Caregivers had tendency to hide their feelings or suppress them. Practitioners who worked with this group can work on revealing these feelings.
2. Caregivers' psychological needs such as caregiver burden, heavy responsibilities, fears, anxiety, depressive feelings will continue to be seen and realized although their mental health continuum, resilience, transformative power of suffering, and hope level were high. This study revealed some of these feelings in less worked groups such as adult children caregivers. Practitioners can focus on this group's psychological needs.
3. Since caregivers' psychological needs continue, after determining these needs, an intervention program can be developed to satisfy these needs.
4. Patients can receive required psychological assistance while caregivers feel that they need to hide their feelings, a program to help them should be conducted to decrease their stress level.

## REFERENCES

- Alacacioglu, A., Tarhan, O., Alacacioglu, I., Dirican, A., & Yilmaz, U. (2013). Depression and anxiety in cancer patients and their relatives. *J BUON*, 18(3), 767-74.
- Alkan, A., Köksoy, E. B., Karcı, E., Burgaç, H., Soğancı, A. A., Yaman, D., & Şenler, F. Ç. (2018). Post-traumatic growth and death anxiety in caregivers of cancer patients: PHOENIX study. *Annals of Oncology*, 29, viii557.
- Andrykowski, M. A., & Hunt, J. W. (1993). Positive psychosocial adjustment in potential bone marrow transplant recipients: Cancer as a psychosocial transition. *Psycho-Oncology*, 2(4), 261-276. DOI: 10.1002/pon.2960020406
- Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social science & medicine*, 36(6), 725-733. DOI: 10.1016/0277-9536(93)90033-Z
- Arruebo, M., Vilaboa, N., Sáez-Gutierrez, B., Lambea, J., Tres, A., Valladares, M., & González-Fernández, Á. (2011). Assessment of the evolution of cancer treatment therapies. *Cancers*, 3(3), 3279-3330. DOI: 10.3390/cancers3033279
- Asaad, F. (2021). *The investigation of attachment styles, resilience and posttraumatic stress disorder in Syrian refugees in Turkey* (Master's thesis, Bahcesehir University). Retrieved from <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>
- Bakker, E. M., Witkamp, F. E., Luu, K. L. N., van Dongen, S. I., Raijmakers, N. J. H., van Roij, J., ... & Rietjens, J. A. C. (2022). Caregiver activation of relatives of patients with advanced cancer. *European Journal of Cancer Care*. 1-11. DOI: 10.1111/ecc.13656
- Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental psychology*, 25(5), 729. DOI: 10.1037/0012-1649.25.5.729

Baran, G., Arda Sürücü, H., & Hülya Üzel, V. (2020). Resilience, life satisfaction, care burden and social support of mothers with a child with acute lymphoblastic leukaemia: A comparative study. *Scandinavian Journal of Caring Sciences*, 34(2), 340-347. DOI: 10.1111/scs.12734

Barber, J. B., Burrill, W., Spreadborough, A. R., Levine, E., Warren, C., Kiltie, A. E., ... Scott, D. (2000). Relationship between in vitro chromosomal radiosensitivity of peripheral blood lymphocytes and the expression of normal tissue damage following radiotherapy for breast cancer. *Radiotherapy and Oncology*, 55(2), 179–186. DOI: 10.1016/S0167-8140(99)00158-9

Barnes E, Bruera E. (2002). Fatigue in patients with advanced cancer: *A review. Int J Gynecol Cancer*, 12(5): 424-428. DOI: 10.1136/ijgc-00009577-200209000-00002

Baudino, T. (2015). Targeted cancer therapy: the next generation of cancer treatment. *Current drug discovery technologies*, 12(1), 3-20.

Bergqvist, J., & Strang, P. (2019). Breast cancer patients' preferences for truth versus hope are dynamic and change during late lines of palliative chemotherapy. *Journal of Pain and Symptom Management*, 57(4), 746-752. DOI: 10.1016/j.jpainsymman.2018.12.336

Bertuccio, P., Alicandro, G., Malvezzi, M., Carioli, G., Boffetta, P., Levi, F., ... & Negri, E. (2019). Cancer mortality in Europe in 2015 and an overview of trends since 1990. *Annals of Oncology*, 30(8), 1356-1369. DOI: 10.1093/annonc/mdz179

Bevan, J. L., & Pecchioni, L. L. (2008). Understanding the impact of family caregiver cancer literacy on patient health outcomes. *Patient education and counseling*, 71(3), 356-364. DOI: 10.1016/j.pec.2008.02.022

Blanca, M. J., Arnau, J., López-Montiel, D., Bono, R., & Bendayan, R. (2013). Skewness and kurtosis in real data samples. *Methodology*.

Bolat, T., Bolat, O. İ., & Taştan, S. (2020). Örgütsel destek, sosyal bağlılık ve

dünyaya ilişkin varsayımların travma sonrası büyüme üzerindeki etkisinde acının dönüştürücü gücünün rolü: pozitif psikoloji bağlamında bir değerlendirme. *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 22(1), 361-402. DOI: 10.16953/deusosbil.554080

Bonanno, G. A. (2004). Loss, trauma, and human resilience: have we underestimated the human capacity to thrive after extremely aversive events?. *American psychologist*, 59(1), 20. DOI: 10.1037/0003-066X.59.1.20

Bookwala, J. (2014). Spouse health status, depressed affect, and resilience in mid and late life: A longitudinal study. *Developmental psychology*, 50(4), 1241. DOI: 10.1037/a0035124

Borneman, T., Stahl, C., Ferrell, B. R., & Smith, D. (2002). The concept of hope in family caregivers of cancer patients at home. *Journal of Hospice & Palliative Nursing*, 4(1), 21-33.

Bower, J. E., Meyerowitz, B. E., Bernaards, C. A., Rowland, J. H., Ganz, P. A., & Desmond, K. A. (2005). Perceptions of positive meaning and vulnerability following breast cancer: Predictors and outcomes among long-term breast cancer survivors. *Annals of Behavioral Medicine*, 29(3), 236-245. DOI: 10.1207/s15324796abm2903\_10

Braun-Lewensohn, O. (2015). Coping and social support in children exposed to mass trauma. *Current psychiatry reports*, 17, 1-10.

Broderick, J. M. (2017). FDA approves pembrolizumab for microsatellite instability-high and mismatch repair deficient cancers. *OncLive*.

Brown, S. L., Smith, D. M., Schulz, R., Kabeto, M. U., Ubel, P. A., Poulin, M., ... & Langa, K. M. (2009). Caregiving behavior is associated with decreased mortality risk. *Psychological science*, 20(4), 488-494. DOI: 10.1111/j.1467-9280.2009.02323.x

Carel, H., & Kidd, I. J. (2019). Suffering as transformative experience. In *Philosophy of Suffering* (pp. 165-179). Routledge.

Carver, C. S., Pozo, C., Harris, S., Noriega, V., Scheier, M. F., Robinson, D. S., et al. (1993). How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology*, 65, 375–390. DOI: 10.1037/10338-005

Cassidy, T. (2013). Benefit finding through caring: The cancer caregiver experience. *Psychology and Health*, 28(3), 250–266. DOI: 10.1080/08870446.2012.717623

Cathomas, F., Murrough, J. W., Nestler, E. J., Han, M. H., & Russo, S. J. (2019). Neurobiology of resilience: interface between mind and body. *Biological psychiatry*, 86(6), 410-420. DOI: 10.1016/j.biopsych.2019.04.011

Cavers, D., Hacking, B., Erridge, S. E., Kendall, M., Morris, P. G., & Murray, S. A. (2012). Social, psychological and existential well-being in patients with glioma and their caregivers: a qualitative study. *Cmaj*, 184(7), E373-E382. DOI: 10.1503/cmaj.111622

Charalambous, A., Berger, A. M., Matthews, E., Balachandran, D. D., Papastavrou, E., & Palesh, O. (2019). Cancer-related fatigue and sleep deficiency in cancer care continuum: concepts, assessment, clusters, and management. *Supportive Care in Cancer*, 27, 2747-2753. DOI: 10.1007/s00520-019-04746-9

Charmaz, K. (1983). Loss of self: a fundamental form of suffering in the chronically ill. *Sociology of health & illness*, 5(2), 168-195. DOI: 10.1111/1467-9566.ep10491512

Clarke, N. E., McCarthy, M. C., Downie, P., Ashley, D. M., & Anderson, V. A. (2009). Gender differences in the psychosocial experience of parents of children with cancer: a review of the literature. *Psycho-Oncology: Journal of the*

*Psychological, Social and Behavioral Dimensions of Cancer*, 18(9), 907-915.  
DOI: 10.1002/pon.1515

Clausen, J. A. (1995). *American lives: Looking back at the children of the Great Depression*. Univ of California Press.

Clayton JM, Butow PN, Arnold RM, Tattersall MHN (2005) Fostering coping and nurturing hope when discussing the future with terminally ill cancer patients and their caregivers. *Cancer* 103:1965–1975. DOI: 10.1002/cncr.21010

Compas, B. E., Worsham, N. L., Ey, S., & Howell, D. C. (1996). When mom or dad has cancer: II. Coping, cognitive appraisals, and psychological distress in children of cancer patients. *Health psychology*, 15(3), 167.

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and anxiety*, 18(2), 76-82.

Cook, M. B., Dawsey, S. M., Freedman, N. D., Inskip, P. D., Wichner, S. M., Quraishi, S. M., ... & McGlynn, K. A. (2009). Sex disparities in cancer incidence by period and age. *Cancer Epidemiology Biomarkers & Prevention*, 18(4), 1174-1182. DOI: 10.1158/1055-9965.EPI-08-1118

Cormio, C., Romito, F., Viscanti, G., Turaccio, M., Lorusso, V., & Mattioli, V. (2014). Psychological well-being and posttraumatic growth in caregivers of cancer patients. *Frontiers in psychology*, 5, 1342. DOI: 10.3389/fpsyg.2014.01342

Çuhadar, D., Tanriverdi, D., Pehlivan, M., Kurnaz, G., & Alkan, S. (2016). Determination of the psychiatric symptoms and psychological resilience levels of hematopoietic stem cell transplant patients and their relatives. *European journal of cancer care*, 25(1), 112-121 DOI: 10.1111/ecc.12219

Deimling, G. T., Bass, D. M., Townsend, A. L., & Noelker, L. S. (1989). Care-related stress: A comparison of spouse and adult-child caregivers in shared and

separate households. *Journal of Aging and Health*, 1(1), 67-82. DOI: 10.1177/089826438900100105

Demirci, İ. ve Akın, A. (2015). Ruh Sağlığı Sürekliliği Kısa Formu'nun geçerliği ve güvenilirliği. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 48(1), 49-64.

Denckla, C. A., Cicchetti, D., Kubzansky, L. D., Seedat, S., Teicher, M. H., Williams, D. R., & Koenen, K. C. (2020). Psychological resilience: an update on definitions, a critical appraisal, and research recommendations. *European Journal of Psychotraumatology*, 11(1), 1822064. DOI: 10.1080/20008198.2020.1822064

Devarahally, S. R., Severson, R. K., Chuba, P., Thomas, R., Bhambhani, K., & Hamre, M. R. (2003). Second malignant neoplasms after primary central nervous system malignancies of childhood and adolescence. *Pediatric hematology and oncology*, 20(8), 617-625. DOI: 10.1080/08880010390243031

Diener, E. (1984). Subjective well-being. *Psychological bulletin*, 95(3), 542. DOI: 10.1037/0033-2909.95.3.542

Diener, E., & Scollon, C. (2003, October). Subjective well-being is desirable, but not the summum bonum. In *University of Minnesota Interdisciplinary workshop on well-being* (pp. 23-25).

Dinçer, D., & Aydoğan, D. (2019). Evlilik ilişkisinin gizil güçleri: Özgecil aşk, acının dönüştürücü gücü ve fedakârlık doyumunu. *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi*, 7, 65-77.

Dinçer, D., Ekşi, H., Demirci, I. ve Kardaş, S., (2015), Acının Dönüştürücü Gücü Ölçeği: Geçerlik ve Güvenirlik Çalışması. *The Journal of Academic Social Science Studies*, 39, 409-421.

Dionne-Odom, J. N., Azuero, A., Taylor, R. A., Wells, R. D., Hendricks, B. A., Bechthold, A. C., ... & Rosenberg, A. R. (2021). Resilience, preparedness, and

distress among family caregivers of patients with advanced cancer. *Supportive Care in Cancer*, 29(11), 6913-6920. DOI: 10.1007/s00520-021-06265-y

Doğan, T. (2015). Kısa psikolojik sağlamlık ölçeği'nin Türkçe uyarlaması: Geçerlik ve güvenirlik çalışması. *The Journal of Happiness & Well-Being*, 3(1), 93-102.

Dominguez-Cabello E., Martin-Rodriguez A. & Perez-San-Gregorio M.A. (2012b) Relatives' mental health during liver transplantation process. *Transplantation Proceedings* 44, 2096–2097. DOI: 10.1016/j.transproceed.2012.07.083

Dominguez-Cabello E., Martin-Rodriguez A., Perez-San-Gregorio M.A., Fernández- Jiménez E., Sousa-Martín J.M. & Bernardos-Rodríguez A. (2012a) Coping strategies in liver patients as a function of relatives' anxiety level. *Transplantation Proceedings* 44, 2616–2618. DOI: 10.1016/j.transproceed.2012.09.106.

Dorak, M. T., & Karpuzoglu, E. (2012). Gender differences in cancer susceptibility: an inadequately addressed issue. *Frontiers in genetics*, 3, 268. DOI: 10.3389/fgene.2012.00268

DSM-5. 2013. *Diagnostic and Statistical Manual of Mental Disorders*. The American Psychiatric Association, pg. 835.

Duggleby, W., Wright, K., Williams, A., Degner, L., Cammer, A., & Holtslander, L. (2007). Developing a living with hope program for caregivers of family members with advanced cancer. *Journal of Palliative Care*, 23(1), 24-31. DOI: 10.1177/082585970702300104

Eden, O. B., Harrison, G., Richards, S., Lilleyman, J. S., Bailey, C. C., Chessells, J. M., ... & Gibson, B. E. S. (2000). Long-term follow-up of the United Kingdom Medical Research Council protocols for childhood acute lymphoblastic leukaemia, 1980–1997. *Leukemia*, 14(12), 2307-2320.

Edwards, B. K., Ward, E., Kohler, B. A., Ehemann, C., Zauber, A. G., Anderson, R. N., ... & Ries, L. A. (2010). Annual report to the nation on the status of cancer, 1975-2006, featuring colorectal cancer trends and impact of interventions (risk factors, screening, and treatment) to reduce future rates. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, 116(3), 544-573.

Edwards, B., & Clarke, V. (2004). The psychological impact of a cancer diagnosis on families: the influence of family functioning and patients' illness characteristics on depression and anxiety. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 13(8), 562-576. DOI: 10.1002/pon.773

Elliott J, Olver I (2002) The discursive properties of “hope”: a qualitative analysis of cancer patients’ speech. *Qual Health Res.* 12:173–193. DOI: 10.1177/10497323020120020

Ell, K. O., Nishimoto, R. H., Mantell, J. E., & Hamovitch, M. B. (1988). Psychological adaptation to cancer: A comparison among patients, spouses, and nonspouses. *Family Systems Medicine*, 6(3), 335. DOI: 10.1037/h0089745

Elliott, T. R., Witty, T. E., Herrick, S. M., & Hoffman, J. T. (1991). Negotiating reality after physical loss: hope, depression, and disability. *Journal of personality and social psychology*, 61(4), 608. DOI: 10.1037/0022-3514.61.4.608

Erickson, R. C, Post, R., & Paige, A. (1975). Hope as a psychiatric variable. *Journal of Clinical Psychology*, 31, 324-329.

Eshel, Y., & Kimhi, S. (2016). Postwar recovery to stress symptoms ratio as a measure of resilience, individual characteristics, sense of danger, and age. *Journal of loss and trauma*, 21(2), 160-177. DOI: 10.1080/15325024.2014.965970

Eshel, Y., Kimhi, S., Lahad, M., Leykin, D., & Goroshit, M. (2018). Risk factors as major determinants of resilience: A replication study. *Community mental health journal*, 54, 1228-1238. DOI: 10.1007/s10597-018-0263-7

Farber, M. L. (1968). *Theory of suicide*. New York: Funk and Wagnall's. Frank, J. D. (1968). The role of hope in psychotherapy. *International Journal of Psychiatry*, 5, 383-395.

Fergusson, D. M., McLeod, G. F. H., Horwood, L. J., Swain, N. R., Chapple, S., & Poulton, R. (2015). Life satisfaction and mental health problems (18 to 35 years). *Psychological medicine*, 45(11), 2427-2436.

Focht-Birkerts, L., & Beardslee, W. R. (2000). A child's experience of parental depression: Encouraging relational resilience in families with affective illness. *Family process*, 39(4), 417-434. DOI: 10.1111/j.1545-5300.2000.39403.x

Fotiadou, M., Barlow, J. H., Powell, L. A., & Langton, H. (2008). Optimism and psychological well-being among parents of children with cancer: an exploratory study. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 17(4), 401-409. DOI: 10.1002/pon.1257

Friedman, L. C., Baer, P. E., Lewy, A., Lane, M., et al. (1988). Predictors of psychosocial adjustment to breast cancer. *Journal of Psychosocial Oncology*, 6, 75-94. DOI: 10.1300/J077v06n01\_05

Fukumura, D., Kloepper, J., Amoozgar, Z., Duda, D. G., & Jain, R. K. (2018). Enhancing cancer immunotherapy using antiangiogenics: opportunities and challenges. *Nature reviews Clinical oncology*, 15(5), 325-340. DOI: 10.7603/s40681-015-0019-4

Galatzer-Levy, I. R., Huang, S. H., & Bonanno, G. A. (2018). Trajectories of resilience and dysfunction following potential trauma: A review and statistical evaluation. *Clinical psychology review*, 63, 41-55. DOI: 10.1016/j.cpr.2018.05.008

Garmezy N, Rutter M. (1985). Acute stress reactions. In: M Rutter, L Hersob, editors. *Child and adolescent psych: modern approaches*. Oxford: Blackwell.

Garmezy, N. (1993). Children in Poverty. Resilience The Spit Risk. *Psychiatric Interpersonal and Biological Processes*, 56(1).

Geng, H. M., Chuang, D. M., Yang, F., Yang, Y., Liu, W. M., Liu, L. H., & Tian, H. M. (2018). Prevalence and determinants of depression in caregivers of cancer patients: A systematic review and meta-analysis. *Medicine*, 97(39).DOI: 10.1097/MD.00000000000011863

Gensheimer, M. F., & Loo, B. W. (2017). Optimal radiation therapy for small cell lung cancer. *Current Treatment Options in Oncology*, 18(4), 21. DOI: 10.1007/s11864-017-0467-z

Giannousi, Z., Karademas, E. C., & Dimitraki, G. (2016). Illness representations and psychological adjustment of Greek couples dealing with a recently-diagnosed cancer: dyadic, interaction and perception-dissimilarity effects. *Journal of behavioral medicine*, 39, 85-93. DOI: 10.1007/s10865-015-9664-z

Gilbert, D. 2006. *Stumbling on Happiness*. London: Harper Press.

Given, B., & Given, C. W. (1992). Patient and family caregiver reaction to new and recurrent breast cancer. *Journal of the American Medical Women's Association* (1972), 47(5), 201-6.

Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <https://vizhub.healthdata.org/gbd-results/>.

Goldzweig, G., Merims, S., Ganon, R., Peretz, T., Altman, A., & Baider, L. (2013). Informal caregiving to older cancer patients: preliminary research outcomes and implications. *Annals of oncology*, 24(10), 2635-2640. DOI: 10.1093/annonc/mdt250

Gözüm, S., & Akçay, D. (2005). Response to the needs of Turkish chemotherapy patients and their families. *Cancer Nursing*, 28(6), 469-475. DOI: 10.1097/00002820-200511000-00010

Grov, E. K., Dahl, A. A., Moum, T., & Fosså, S. D. (2005). Anxiety, depression, and quality of life in caregivers of patients with cancer in late palliative phase. *Annals of oncology*, 16(7), 1185-1191. DOI: 10.1093/annonc/mdi210

Haddad, P. M. (1994). *Affective disorders in the partners of cancer patients*. The University of Manchester (United Kingdom).

Hale-Smith, A., Park, C. L., & Edmondson, D. (2012). Measuring beliefs about suffering: Development of the views of suffering scale. *Psychological Assessment*, 24, 855. DOI:10.1037/a0027399

Harris, J. R., Lippman, M. E., Morrow, M., & Osborne, C. K. (2014). *Diseases of the breast*, 5th edition. United States: Wolters Kluwer/Lippincott Williams & Wilkins Health, 2014. 1224p. <https://www.ncbi.nlm.nih.gov/nlmcatalog/101616539>.

Hashim, D., Boffetta, P., La Vecchia, C., Rota, M., Bertuccio, P., Malvezzi, M., & Negri, E. (2016). The global decrease in cancer mortality: trends and disparities. *Annals of Oncology*, 27(5), 926-933. DOI: 10.1093/annonc/mdw027

Hauser, S. T., Golden, E., & Allen, J. P. (2006). Narrative in the study of resilience. *The psychoanalytic study of the child*, 61(1), 205-227. DOI: 10.1080/00797308.2006.11800771

Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience?. *The Canadian Journal of Psychiatry*, 56(5), 258-265. DOI: 10.1177/070674371105600504

Hilton BA, Crawford JA & Tarko MA (2000). *Men's perspectives on individual and family coping with their wives' breast cancer and chemotherapy*. *Western Journal of Nursing Research* 22, 438–459. DOI: 10.1177/019394590002200405

Hinz, A., Krauss, O., Hauss, J. P., Höckel, M., Kortmann, R. D., Stolzenburg, J. U., & Schwarz, R. (2010). Anxiety and depression in cancer patients compared with the general population. *European journal of cancer care*, 19(4), 522-529. DOI: 10.1111/j.1365-2354.2009.01088.x

Hobfoll, S. E., & Lerman, M. (1988). Personal relationships, personal attributes, and stress resistance: Mothers' reactions to their child's illness. *American Journal of Community Psychology*, 16(4), 565.

Hobfoll, S. E., & Lilly, R. S. (1993). Resource conservation as a strategy for community psychology. *Journal of community psychology*, 21(2), 128-148. DOI: 10.1002/1520-6629(199304)21:2<128::AID-JCOP2290210206>3.0.CO;2-5

Holtslander, L. F., Duggleby, W., Williams, A. M., & Wright, K. E. (2005). The experience of hope for informal caregivers of palliative patients. *Journal of palliative care*, 21(4), 285-291. DOI: 10.1177/082585970502100408

Hornor, G. (2017). Resilience. *Journal of pediatric health care*, 31(3), 384-390. DOI: 10.1016/j.pedhc.2016.09.005

Hou, W. K., Lam, W. W. T., & Fielding, R. (2009). Adaptation process and psychosocial resources of Chinese colorectal cancer patients undergoing adjuvant treatment: A qualitative analysis. *Psycho-Oncology*, 18, 936-944. DOI: 10.1002/pon.1457

Hou, W. K., Law, C. C., Yin, J., & Fu, Y. T. (2010). Resource loss, resource gain, and psychological resilience and dysfunction following cancer diagnosis: A growth mixture modeling approach. *Health Psychology*, 29, 484-495 DOI: 10.1037/a0020809 <https://www.cancer.gov/about-cancer/causes-prevention/patient-prevention-overview-pdq>

Hwang, I. C., Kim, Y. S., Lee, Y. J., Choi, Y. S., Hwang, S. W., Kim, H. M., & Koh, S.-J. (2018). Factors associated with caregivers' resilience in a terminal cancer care setting. *The American Journal of Hospice and Palliative Care*, 35(4), 677–683. DOI:10.1177/1049909117 741110

Ilic, M., & Ilic, I. (2016). Epidemiology of pancreatic cancer. *World journal of gastroenterology*, 22(44), 9694. DOI: 10.3748/wjg.v22.i44.9694

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York: Free Press.

Jassem, J., Penrod, J. R., Goren, A., & Gilloteau, I. (2015). Caring for relatives with lung cancer in Europe: an evaluation of caregivers' experience. *Quality of Life Research*, 24(12), 2843-2852. DOI: 0.1007/s11136-015-1028-1

Jayawickreme, E., & Blackie, L. E. (2016). *Exploring the psychological benefits of hardship: A critical reassessment of posttraumatic growth*. Dordrecht: Springer International Publishing.

Jemal, A., Clegg, L. X., Ward, E., Ries, L. A., Wu, X., Jamison, P. M., ... & Edwards, B. K. (2004). Annual report to the nation on the status of cancer, 1975–2001, with a special feature regarding survival. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, 101(1), 3-27.

Jia, M., Li, J., Chen, C., & Cao, F. (2015). Post-traumatic stress disorder symptoms in family caregivers of adult patients with acute leukemia from a dyadic perspective. *Psycho-oncology*, 24(12), 1754–1760. DOI: 10.1002/pon.3851

Jones, S. B., Whitford, H. S., & Bond, M. J. (2015). Burden on informal caregivers of elderly cancer survivors: Risk versus resilience. *Journal of Psychosocial Oncology*, 33(2), 178–198. DOI: 10.1080/07347332.2014.1002657

Joseph, S., & Linley, P. A. (2006). Growth following adversity: Theoretical perspectives and implications for clinical practice. *Clinical psychology review*, 26(8), 1041-1053. DOI: 10.1016/j.cpr.2005.12.006

Joseph, S., & Linley, P. A. (2008). Positive psychological perspectives on posttraumatic stress: An integrative psychosocial framework. *Trauma, recovery, and growth: Positive psychological perspectives on posttraumatic stress*, 3-20.

Joshanloo, M., (2014), Differences in the endorsement of various conceptions of well-being between two Iranian groups, *Psychology of Religion and Spirituality*, 6(2): 138-149. DOI: 10.1037/a0035510

Joshanloo, M., & Nosratabadi, M. (2009). Levels of mental health continuum and personality traits. *Social Indicators Research*, 90, 211-224. DOI: 10.1007/s11205-008-9253-4

Kangas, M., Henry, J. L., & Bryant, R. A. (2002). Posttraumatic stress disorder following cancer: A conceptual and empirical review. *Clinical psychology review*, 22(4), 499-524. DOI: 10.1016/S0272-7358(01)00118-0

Karasar, N. (2011). *Bilimsel araştırma yöntemi*. Ankara: Nobel Akademik.

Karatzias, T., Jowett, S., Yan, E., Raeside, R., & Howard, R. (2017). Depression and resilience mediate the relationship between traumatic life events and ill physical health: Results from a population study. *Psychology, Health and Medicine*, 22(9), 1021–1031. DOI: 10.1080/13548506.2016.1257814

Kershaw, T., Ellis, K. R., Yoon, H., Schafenacker, A., Katapodi, M., & Northouse, L. (2015). The interdependence of advanced cancer patients' and their family caregivers' mental health, physical health, and self-efficacy over time. *Annals of Behavioral Medicine*, 49(6), 901-911. DOI: 10.1007/s12160-015-9743-y

Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of health and social behavior*, 207-222. DOI: 10.2307/3090197

Keyes, C. L. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of consulting and clinical psychology*, 73(3), 539. DOI: 10.1037/0022-006X.73.3.539

Keyes, C. L. (2018). Risk and resilience in human development: An introduction. In *Risk and Resilience in Human Development* (pp. 223-227). Psychology Press.

Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, 61, 121–140. DOI: 10.2307/2787065

Keyes, C. L., & Haidt, J. (Eds.). (2003). *Flourishing: Positive psychology and the life well-lived* (pp. 275-289). Washington, DC: American Psychological Association.

Keyes, C. L., & Lopez, S. J. (2009). Toward a science of mental health. *Oxford handbook of positive psychology*, 2, 89-95.

Keyes, C. L., & Shapiro, A. D. (2004). Social well-being in the United States: A descriptive epidemiology. *How healthy are we*, 350-372.

Keyes, C. L., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., & Van Rooy, S. (2008). Evaluation of the mental health continuum–short form (MHC–SF) in setswana-speaking South Africans. *Clinical psychology & psychotherapy*, 15(3), 181-192. DOI: 10.1002/cpp.572

Kim, Y., & Spillers, R. L. (2010). Quality of life of family caregivers at 2 years after a relative's cancer diagnosis. *Psycho-oncology*, 19(4), 431-440. DOI: 10.1002/pon.1576

Kim, Y., Baker, F., Spillers, R. L., & Wellisch, D. K. (2006). Psychological adjustment of cancer caregivers with multiple roles. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 15(9), 795-804. DOI: 10.1002/pon.1013

Kim, Y., Shaffer, K. M., Carver, C. S., & Cannady, R. S. (2016). Quality of life of family caregivers 8 years after a relative's cancer diagnosis: follow-up of the National Quality of Life Survey for Caregivers. *Psycho-oncology*, 25(3), 266-274. DOI: 10.1002/pon.3843

Kim, Y., Spillers, R. L., & Hall, D. L. (2012). Quality of life of family caregivers 5 years after a relative's cancer diagnosis: follow-up of the national quality of life survey for caregivers. *Psycho-Oncology*, 21(3), 273-281. DOI: 10.1002/pon.1888

Kimhi, S., & Shamai, M. (2004). Community resilience and the impact of stress: Adult response to Israel's withdrawal from Lebanon. *Journal of community psychology*, 32(4), 439-451. DOI: 10.1002/jcop.20012

Klein, C. A. (2011). Flexural strength of infrared-transmitting window materials: bimodal Weibull statistical analysis. *Optical Engineering*, 50(2), 023402-023402.

Kleinheksel, A. J., Rockich-Winston, N., Tawfik, H., & Wyatt, T. R. (2020). Demystifying content analysis. *American journal of pharmaceutical education*, 84(1), 7113. DOI: 10.5688/ajpe7113

Kristanti, M. S., Effendy, C., Utarini, A., Vernooij-Dassen, M., & Engels, Y. (2019). The experience of family caregivers of patients with cancer in an Asian country: A grounded theory approach. *Palliative Medicine*, 33(6), 676-684. DOI: 10.1177/0269216319833260

Kübler-Ross, E. (1975). On death and dying. *Bulletin of the American College of Surgeons*, 60(6), 12-15.

Kühne, F., Krattenmacher, T., Bergelt, C., Ernst, J. C., Flechtner, H. H., Führer, D., ... & Möller, B. (2012). Parental palliative cancer: psychosocial adjustment and health-related quality of life in adolescents participating in a German family counselling service. *BMC Palliative Care*, 11, 1-9.

Kurtz, M. E., Given, C. W., Given, B. A., & Kurtz, J. C. (1994). The interaction of age, symptoms, and survival status on physical and mental health of patients with

cancer and their families. *Cancer*, 74(S7), 2071-2078. DOI: 10.1002/1097-0142(19941001)74:7+<2071::AID-CNCR2820741715>3.0.CO;2-R

Lamers, S. M., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., & Keyes, C. L. (2011). Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF). *Journal of clinical psychology*, 67(1), 99-110. DOI: 10.1002/jclp.20741

Lang, H., France, E., Williams, B., Humphris, G., & Wells, M. (2013). The psychological experience of living with head and neck cancer: a systematic review and meta-synthesis. *Psycho-oncology*, 22(12), 2648-2663. DOI: 10.1002/pon.3343

Lau, J., Khoo, A. M. G., Ho, A. H. Y., & Tan, K. K. (2021). Psychological resilience among palliative patients with advanced cancer: A systematic review of definitions and associated factors. *Psycho-Oncology*, 30(7), 1029-1040. DOI: 10.1002/pon.5666

Lauzier, S., Maunsell, E., De Koninck, M., Drolet, M., Hébert-Croteau, N., & Robert, J. (2005). Conceptualization and sources of costs from breast cancer: findings from patient and caregiver focus groups. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 14(5), 351-360. DOI: 10.1002/pon.851

Lee, Y. H., Liao, Y. C., Liao, W. Y., Shun, S. C., Liu, Y. C., Chan, J. C., ... & Lai, Y. H. (2013). Anxiety, depression and related factors in family caregivers of newly diagnosed lung cancer patients before first treatment. *Psycho-Oncology*, 22(11), 2617-2623. DOI: 10.1002/pon.3328

Leitzmann, M. F., & Rohrmann, S. (2012). Risk factors for the onset of prostatic cancer: age, location, and behavioral correlates. *Clinical epidemiology*, 1-11. DOI: 10.2147/CLEP.S16747

Lemon, S. C., Zapka, J. G., & Clemow, L. (2004). Health behavior change among women with recent familial diagnosis of breast cancer. *Preventive medicine*, 39(2), 253-262. DOI: 10.1016/j.ypmed.2004.03.039

Li, Q., Chiang, V. C. L., Xu, X., Xu, Y., & Loke, A. Y. (2015). The experiences of Chinese couples living with cancer: a focus group study. *Cancer Nursing*, 38(5), 383-394. DOI: 10.1097/NCC.0000000000000196

Li, Y., Qiao, Y., Luan, X., Li, S., & Wang, K. (2019). Family resilience and psychological well-being among Chinese breast cancer survivors and their caregivers. *European journal of cancer care*, 28(2), e12984. DOI: 10.1111/ecc.12984

Li, Y., Wang, K., Yin, Y., Li, Y., & Li, S. (2018). Relationships between family resilience, breast cancer survivors' individual resilience, and caregiver burden: A cross-sectional study. *International journal of nursing studies*, 88, 79-84. DOI: 10.1016/j.ijnurstu.2018.08.011

Lin, H. R., & Bauer-Wu, S. M. (2003). Psycho-spiritual well-being in patients with advanced cancer: an integrative review of the literature. *Journal of advanced nursing*, 44(1), 69-80.

Little, M., Jordens, C. F., Paul, K., Montgomery, K., & Philipson, B. (2022). Liminality: A major category of the experience of cancer illness. *Journal of Bioethical Inquiry*, 19(1), 37-48.

Lopez, S. J. , Ciarlelli, R., Coffman, L. Stone, M., & Wyatt, L. (2000). Diagnosing for strengths: On measuring hope building blocks. In C.R.Snyder (Ed.), *Handbook of Hope Theory, Measures and Applications* (pp. 57-85). London: Academic Press.

Luthar, S. S., & Cushing, G. (2002). Measurement issues in the empirical study of resilience: An overview. *Resilience and development: Positive life adaptations*, 129-160. DOI: 10.1111/1467-8624.00164

Machado, W. D. L., & Bandeira, D. R. (2015). Positive mental health scale: validation of the mental health continuum-short form. *Psico-USF*, 20, 259-274.

Mancini, A. D., & Bonanno, G. A. (2011). Toward a lifespan approach to resilience and potential trauma. *Resilience and mental health: Challenges across the lifespan*, 120-34.

Manne, S., Ostroff, J., Winkel, G., Goldstein, L., Fox, K., & Grana, G. (2004). Posttraumatic growth after breast cancer: Patient, partner, and couple perspectives. *Psychosomatic medicine*, 66(3), 442-454.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American psychologist*, 56(3), 227. DOI: 10.1037/0003-066X.56.3.227

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American psychologist*, 53(2), 205. DOI: 10.1037/0003-066X.53.2.205

Masten, A. S., & Reed, M. G. J. (2002). Resilience in development. *Handbook of positive psychology*, 74, 88.

McClelland, T. (2019). The disruption model of suffering. In *Philosophy of Suffering* (pp. 37-54). Routledge.

Meyer, P. S., & Mueser, K. T. (2011). Resiliency in individuals with serious mental illness. *Resilience and mental health: Challenges across the lifespan*, 276-288.

Miller, K. D., Nogueira, L., Mariotto, A. B., Rowland, J. H., Yabroff, K. R., Alfano, C. M., ... & Siegel, R. L. (2019). Cancer treatment and survivorship statistics, 2019. *CA: a cancer journal for clinicians*, 69(5), 363-385.

Min, J. A., Yoon, S., Lee, C. U., Chae, J. H., Lee, C., Song, K. Y., & Kim, T. S. (2013). Psychological resilience contributes to low emotional distress in cancer

patients. *Supportive care in cancer*, 21, 2469-2476. DOI: 10.1007/s00520-013-1807-6

Mohan, G., TP, A. H., AJ, J., KM, S. D., Narayanasamy, A., & Vellingiri, B. (2019). Recent advances in radiotherapy and its associated side effects in cancer—a review. *The Journal of Basic and Applied Zoology*, 80(1), 1-10. DOI: 10.1186/s41936-019-0083-5

Mosher, C. E., & Weiss, T. R. (2010). Psychosocial research and practice with adult children of cancer patients. *Psycho-Oncology*, 2 532-536. DOI: 10.1002/pon.3173

National Cancer Institute. (2015, December). *Risk Factors for Cancer*. U.S. Department of Health and Human Services, National Cancer Institute. <https://www.cancer.gov/about-cancer/causes-prevention/risk>

National Cancer Institute. (2019, May). *Symptoms of Cancer*. U.S. Department of Health and Human Services, National Cancer Institute. <https://www.cancer.gov/about-cancer/diagnosis-staging/symptoms>

National Cancer Institute. (2021, March). *Age and Cancer Risk*. U.S. Department of Health and Human Services, National Cancer Institute. <https://www.cancer.gov/about-cancer/causes-prevention/risk/age>

National Cancer Institute. (2021, October). *What Is Cancer?* U.S. Department of Health and Human Services, National Cancer Institute. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>

National Cancer Institute. (2022, August). *The Genetics of Cancer*. U.S. Department of Health and Human Services, National Cancer Institute.

National Cancer Institute. (2022, October). *Cancer Staging*. U.S. Department of Health and Human Services, National Cancer Institute. <https://www.cancer.gov/about-cancer/diagnosis-staging/staging>

National Cancer Institute. (2023, August). *Anal Cancer Prevention (PDQ®)–Health Professional Version?* U.S. Department of Health and Human Services, National Cancer Institute.

National Cancer Institute. (2023, May). *Cancer Prevention Overview (PDQ®)*. U.S. Department of Health and Human Services, National Cancer Institute.

Nelson, E., & While, D. (2002). Children's adjustment during the first year of a parent's cancer diagnosis. *Journal of Psychosocial Oncology*, 20(1), 15-36. DOI: 10.1300/J077v20n01\_02

Ness, K. K., Bhatia, S., Baker, K. S., Francisco, L., Carter, A., Forman, S. J., ... & Gurney, J. G. (2005). Performance limitations and participation restrictions among childhood cancer survivors treated with hematopoietic stem cell transplantation: the bone marrow transplant survivor study. *Archives of pediatrics & adolescent medicine*, 159(8), 706-713. DOI: 10.1001/archpedi.159.8.706

Nicolella, H. D., & de Assis, S. (2022). Epigenetic inheritance: Intergenerational effects of pesticides and other endocrine disruptors on cancer development. *International Journal of Molecular Sciences*, 23(9), 4671. DOI: 10.3390/ijms23094671

Nietzsche, F. (1955). *Beyond good and evil* (M. Cowan, Trans.). Chicago, IL: Henry Regnery.

Nilsson, K. W., Leppert, J., Simonsson, B., & Starrin, B. (2009). Sense of coherence (SOC) and psychological well-being (GHQ): Improvement with age. *Journal of Epidemiology & Community Health*. 64, 347–352. DOI: 10.1136/jech.2008.081174

Nissim, R., Hales, S., Zimmermann, C., Deckert, A., Edwards, B., & Rodin, G. (2017). Supporting family caregivers of advanced cancer patients: a focus group study. *Family Relations*, 66(5), 867-879. DOI: 10.1111/fare.12291

Northouse, L. L., Katapodi, M. C., Schafenacker, A. M., & Weiss, D. (2012, November). The impact of caregiving on the psychological well-being of family caregivers and cancer patients. In *Seminars in oncology nursing* (Vol. 28, No. 4, pp. 236-245). WB Saunders. DOI: 10.1016/j.soncn.2012.09.006

Northouse, L. L., Mood, D. W., Montie, J. E., Sandler, H. M., Forman, J. D., Hussain, M., ... & Kershaw, T. (2007). Living with prostate cancer: patients' and spouses' psychosocial status and quality of life. *Journal of Clinical Oncology*, 25(27), 4171-4177. DOI: 10.1200/JCO.2006.09.6503

Northouse, L. L., Templin, T., Mood, D., & Oberst, M. (1998). Couples' adjustment to breast cancer and benign breast disease: A longitudinal analysis. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 7(1), 37-48. DOI: 10.1002/(SICI)1099-1611(199801/02)7:1<37::AID-PON314>3.0.CO;2-%23

Northouse, L. (1984). The impact of cancer on the family: An overview. *International Journal of Psychiatry in Medicine*, 14, 215-242. DOI: 10.2190/C8Y5-4Y2W-WV93-QDAT

Nouzari, R., Najafi, S. S., & Momennasab, M. (2019). Post-traumatic growth among family caregivers of cancer patients and its association with social support and hope. *International journal of community based nursing and midwifery*, 7(4), 319. DOI: 10.30476/IJCBNM.2019.73959.0

O'Reilly, M., Mellotte, G., Ryan, B., & O'Connor, A. (2020). Gastrointestinal side effects of cancer treatments. *Therapeutic Advances in Chronic Disease*, 11, DOI: 10.1177/2040622320970354

Opsomer, S., De Lepeleire, J., Lauwerier, E., & Pype, P. (2020). Resilience in family caregivers of patients diagnosed with advanced cancer—unravelling the process of bouncing back from difficult experiences, a hermeneutic review. *European Journal of General Practice*, 26(1), 79-85. DOI: 10.1080/13814788.2020.1784876

Opsomer, S., Lauwerier, E., De Lepeleire, J., & Pype, P. (2022). Resilience in advanced cancer caregiving. A systematic review and meta-synthesis. *Palliative medicine*, 36(1), 44-58. DOI: 10.1177/0269216321057749

Osborne, J. W., & Overbay, A. (2019). The power of outliers (and why researchers should always check for them). *Practical Assessment, Research, and Evaluation*, 9(1), 6. DOI: 10.7275/qf69-7k43

Padma, V. V. (2015). An overview of targeted cancer therapy. *BioMedicine*, 5, 1-6.

Palacio, C., Krikorian, A., & Limonero, J. T. (2018). The influence of psychological factors on the burden of caregivers of patients with advanced cancer: Resiliency and caregiver burden. *Palliative & supportive care*, 16(3), 269-277. DOI: 10.1017/S1478951517000268

Park, B., Kim, S. Y., Shin, J. Y., Sanson-Fisher, R. W., Shin, D. W., Cho, J., & Park, J. H. (2013). Prevalence and predictors of anxiety and depression among family caregivers of cancer patients: a nationwide survey of patient–family caregiver dyads in Korea. *Supportive Care in Cancer*, 21(10), 2799-2807. DOI 10.1007/s00520-013-1852-1

Paul, L. A. 2014. *Transformative Experience*. Oxford: Oxford University Press.

Phipps, S., Long, A., Willard, V. W., Okado, Y., Hudson, M., Huang, Q., ... & Noll, R. (2015). Parents of children with cancer: At-risk or resilient?. *Journal of pediatric psychology*, 40(9), 914-925. DOI: 10.1093/jpepsy/jsv047

Pinquart, M., & Sörensen, S. (2005). Ethnic differences in stressors, resources, and psychological outcomes of family caregiving: A meta-analysis. *The Gerontologist*, 45(1), 90-106. DOI: 10.1093/geront/45.1.90

Pirl, W. F. (2004). Evidence report on the occurrence, assessment, and treatment of depression in cancer patients. *JNCI Monographs*, 2004(32), 32-39. DOI: 10.1093/jncimonographs/lgh026

Pitceathly, C., & Maguire, P. (2003). The psychological impact of cancer on patients' partners and other key relatives: a review. *European Journal of cancer*, 39(11), 1517-1524. DOI: 10.1016/S0959-8049(03)00309-5

Razavi, T. (2001). Self-report measures: An overview of concerns and limitations of questionnaire use in occupational stress research.

Rhee, Y. S., Yun, Y. H., Park, S., Shin, D. O., Lee, K. M., Yoo, H. J., ... & Kim, N. S. (2008). Depression in family caregivers of cancer patients: the feeling of burden as a predictor of depression. *Journal of Clinical Oncology*, 26(36), 5890-5895. DOI: 0.1200/JCO.2007.15.3957

Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of clinical psychology*, 58(3), 307-321. DOI: x 10.1002/jclp.10020

Rosenberg AR, Wolfe J, Bradford MC et al (2014) Resilience and psychosocial outcomes in parents of children with cancer. *Pediatr Blood Cancer* 61(3):552–557. DOI: 10.1002/pbc.24854

Rosenberg, A. R., Baker, K. S., Syrjala, K. L., Back, A. L., & Wolfe, J. (2013). Promoting resilience among parents and caregivers of children with cancer. *Journal of palliative medicine*, 16(6), 645-652. DOI: 10.1089/jpm.2012.0494

Roy, R. (1990). Consequences of parental illness on children: A review. *Social Work and Social Sciences Review*, 2, 109-124.

Rumpold, T., Schur, S., Amering, M., Ebert-Vogel, A., Kirchheiner, K., Masel, E., ... & Schrank, B. (2017). Hope as determinant for psychiatric morbidity in family caregivers of advanced cancer patients. *Psycho-Oncology*, 26(5), 672-678. DOI: 10.1186/s12885-017-3543-7

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *The British journal of psychiatry*, 147(6), 598-611.

Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of New York Academy of Sciences*, 1094, 1-12. DOI: 10.1196/annals.1376.002

Rutter, M. (2012). Resilience as a dynamic concept. *Development and psychopathology*, 24(2), 335-344. DOI: 10.1017/S0954579412000028

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), 1069. DOI: 10.1037/0022-3514.57.6.1069

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology*, 69(4), 719. DOI: 10.1037/0022-3514.69.4.71

Samms MC (1999) *The husband's untold account of his wife's breast cancer: a chronologic analysis*. *Oncology Nursing Forum* 26, 1351–1358.

Sanatani, M., Schreier, G., & Stitt, L. (2008). Level and direction of hope in cancer patients: an exploratory longitudinal study. *Supportive Care in Cancer*, 16(5), 493-499. DOI:10.1007/s00520-007-0336-6

Sarılioğlu, A., Çiftçi, B., & Yıldırım, N. (2022). The transformative power of pain and posttraumatic growth in nurses with Covid-19 PCR positive. *Perspectives in Psychiatric Care*. DOI: 10.1111/ppc.13102

Sawyer, M. G., Antoniou, G., Toogood, I., Rice, M., & Baghurst, P. A. (1993). A prospective study of the psychological adjustment of parents and families of children with cancer. *Journal of Paediatrics and Child health*, 29(5), 352-356. DOI: 10.1111/j.1440-1754.1993.tb00533.x

Schmid-Büchi, S., Halfens, R. J., Dassen, T., & Van Den Borne, B. (2008). A review of psychosocial needs of breast-cancer patients and their relatives. *Journal of clinical nursing*, 17(21), 2895-2909. DOI: 10.1111/j.1365-2702.2008.02490.x

Schulz, R., & Beach, S. R. (1999). Caregiving as a risk factor for mortality: the Caregiver Health Effects Study. *Jama*, 282(23), 2215-2219.

Scrutton, A. P. (2015). Suffering as potentially transformative: a philosophical and pastoral consideration drawing on Henri Nouwen's experience of depression. *Pastoral psychology*, 64(1), 99-109. DOI: 10.1007/s11089-013-0589-6

Seiler, A., & Jenewein, J. (2019). Resilience in cancer patients. *Frontiers in psychiatry*, 10, 208. DOI: 10.3389/fpsyt.2019.00208

Seligman, M. E., & Csikszentmihalyi, M. (2000). *Positive psychology: An introduction* (Vol. 55, No. 1, p. 5). American Psychological Association.

Semiatin, A. M., & O'Connor, M. K. (2012). The relationship between self-efficacy and positive aspects of caregiving in Alzheimer's disease caregivers. *Aging & Mental Health*, 16(6), 683-688. DOI: 10.1080/13607863.2011.651437

Sharf, B. F., & Freimuth, V. S. (1993). The construction of illness on entertainment television: Coping with cancer on thirtysomething. *Health Communication*, 5(3), 141-160. DOI: 10.1207/s15327027hc0503\_1

Shaw, Y., Bradley, M., Zhang, C., Dominique, A., Michaud, K., McDonald, D., & Simon, T. A. (2020). Development of resilience among rheumatoid arthritis patients: a qualitative study. *Arthritis Care & Research*, 72(9), 1257-1265. DOI: 0.1002/acr.24024

Sherman, D. W., Norman, R., & McSherry, C. B. (2010). A comparison of death anxiety and quality of life of patients with advanced cancer or AIDS and their family caregivers. *Journal of the Association of Nurses in AIDS Care*, 21(2), 99-112. DOI: 10.1016/j.jana.2009.07.007

Siegel, R. L., Miller, K. D., Wagle, N. S., Jemal A. Cancer statistics, (2023). Cancer statistics. *CA: A Cancer Journal for Clinicians*, 73(1):17-48.

Simpson, G. K., Dall'Armi, L., Roydhouse, J. K., Forstner, D., Daher, M., Simpson, T., & White, K. J. (2015). Does resilience mediate carer distress after head and neck cancer?. *Cancer Nursing*, 38(6), E30-E36. DOI: 10.1097/NCC.0000000000000229

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Jennifer Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15, 194–200. DOI: 10.1080/10705500802222972

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60 (4), 570- 585. DOI: 10.1037/0022-3514.60.4.570

Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of personality and social psychology*, 70(2), 321. DOI: 10.1037/0022-3514.70.2.321

Solomon, Z., Mikulincer, M., & Benbenishty, R. (1989). Locus of control and combat-related post-traumatic stress disorder: The intervening role of battle intensity, threat appraisal and coping. *British Journal of Clinical Psychology*, 28(2), 131-144. DOI: 10.1111/j.2044-8260.1989.tb00823.x

Sprung, C. N., Chao, M., Leong, T., & McKay, M. J. (2005). Chromosomal radiosensitivity in two cell lineages derived from clinically radiosensitive cancer patients. *Clinical Cancer Research*, 11(17), 6352–6358. DOI: 10.1158/1078-0432.CCR-04-1931

Stanton, A. L., Danoff-burg, S., & Huggins, M. E. (2002). The first year after breast cancer diagnosis: hope and coping strategies as predictors of adjustment. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, 11(2), 93-102. DOI: 10.1002/pon.574

Stein, K. D., Syrjala, K. L., & Andrykowski, M. A. (2008). Physical and psychological long-term and late effects of cancer. *Cancer*, 112(S11), 2577-2592. DOI: 10.1002/cncr.23448

Stenberg U, Ruland CM, Miaskowski C (2010) Review of the literature on the effects of caring for a patient with cancer. *Psycho-Oncology* 19(10):1013–1025. DOI:10.1002/pon.1670

Steptoe, A., Dockray, S., & Wardle, J. (2009). Positive affect and psychobiological processes relevant to health. *Journal of personality*, 77(6), 1747-1776. DOI: 10.1111/j.1467-6494.2009.00599.x

Street, A. F., Couper, J. W., Love, A. W., Bloch, S., Kissane, D. W., & Street, B. C. (2010). Psychosocial adaptation in female partners of men with prostate cancer. *European Journal of Cancer Care*, 19(2), 234–242. DOI: 10.1111/j.1365-2354.2008.01012.x

Sun, H., Qin, Y., & Hengudomsub, P. (2021). Factors associated with resilience in spousal caregivers of patients with cancer: An integrative review. *Nursing Open*, 8(5), 2131-2141. DOI: 10.1002/nop2.771

Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global cancer statistics 2020: GLOBOCAN estimates of

incidence and mortality worldwide for 36 cancers in 185 countries. *CA: a cancer journal for clinicians*, 71(3), 209-249. DOI: 10.3322/caac.21660

Surucu, S. G., Ozturk, M., Alan, S., Usluoglu, F., Akbas, M., & Vurgec, B. A. (2017). Identification of the level of perceived social support and hope of cancer patients and their families. *World Cancer Res. J*, 4, e886.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Boston: Pearson.

Tang, S. T., Huang, G. H., Wei, Y. C., Chang, W. C., Chen, J. S., & Chou, W. C. (2013). Trajectories of caregiver depressive symptoms while providing end-of-life care. *Psycho-Oncology*, 22(12), 2702–2710. DOI: 10.1002/pon.3334

Tarhan, S., & Bacanlı, H. (2015). Sürekli Umut Ölçeği'nin Türkçe'ye uyarlanması: Geçerlik ve güvenirlik çalışması. *The Journal of Happiness & Well-Being*, 3(1), 1-14.

Tedeschi, R. G., & Calhoun, L. G. (1996). The Post-traumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of traumatic stress*, 9, 455-471.

Tedeschi, R. G., & Calhoun, L. G. (2004). A clinical approach to post-traumatic growth. *Positive psychology in practice*, 405-419. DOI: 10.1002/9780470939338

Teixeira, R. J., & Pereira, M. G. (2013). Psychological morbidity, burden, and the mediating effect of social support in adult children caregivers of oncological patients undergoing chemotherapy. *Psycho-Oncology*, 22(7), 1587-1593. DOI: 10.1002/pon.3173

Teschendorf, B., Schwartz, C., Ferrans, C. E., O'Mara, A., Novotny, P., & Sloan, J. (2007). Caregiver role stress: When families become providers. *Cancer Control: Journal of the Moffitt Cancer Center*, 14(2), 183-189.

Thastum, M., Johansen, M. B., Gubba, L., Olesen, L. B., & Romer, G. (2008). Coping, social relations, and communication: a qualitative exploratory study of

children of parents with cancer. *Clinical child psychology and psychiatry*, 13(1), 123-138. DOI: 10.1177/1359104507086345

Tokem, Y., Ozcelik, H., & Cicik, A. (2015). Examination of the relationship between hopelessness levels and coping strategies among the family caregivers of patients with cancer. *Cancer nursing*, 38(4), E28-E34. DOI: 10.1097/NCC.0000000000000189

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of personality and social psychology*, 86(2), 320. DOI: 10.1037/0022-3514.86.2.320  
Turkish Public Health Institution, Health Statistic Annual, 2018. Available at <https://dosyasb.saglik.gov.tr/Eklenti/36134,siy2018trpdf.pdf?0>

Ungar, M., & Theron, L. (2020). Resilience and mental health: How multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, 7(5), 441-448. DOI: 10.1016/S2215-0366(19)30434-1

Utne, I., Miaskowski, C., Paul, S. M., & Rustøen, T. (2013). Association between hope and burden reported by family caregivers of patients with advanced cancer. *Supportive Care in Cancer*, 21, 2527-2535. DOI: 10.1007/s00520-013-1824-5

Üzar-Özçetin, Y. S., & Dursun, S. İ. (2020). Quality of life, caregiver burden, and resilience among the family caregivers of cancer survivors. *European Journal of Oncology Nursing*, 48, 101832. DOI: 10.1016/j.ejon.2020.101832

Van Rooij, J., Brom, L., Sommeijer, D., Van De Poll-franse, L., & Raijmakers, N. (2021). Self-care, resilience, and caregiver burden in relatives of patients with advanced cancer: results from the eQuiPe study. *Supportive Care in Cancer*, 29(12), 7975-7984. DOI: 10.1007/s00520-021-06365-9

Vanderpol, M. (2002). Resilience: A missing link in our understanding of survival. *Harvard Review of Psychiatry*, 10(5), 302-306.

Vartak, J. (2015). The role of hope and social support on resilience in cancer patients. *Indian Journal of Mental Health*, 2(1), 35-42.

Weeks, J. C., Catalano, P. J., Cronin, A., Finkelman, M. D., Mack, J. W., Keating, N. L., & Schrag, D. (2012). Patients' expectations about effects of chemotherapy for advanced cancer. *New England Journal of Medicine*, 367(17), 1616-1625. DOI: 10.1056/NEJMoal1204410

Weinberg, R. A. (1996). How cancer arises. *Scientific American*, 275(3), 62-70.

Weiss, T. (2004). *Correlates of posttraumatic growth in married breast cancer survivors*. *Journal of Social and Clinical Psychology*, 23(5), 733-746. DOI: 10.1521/jscp.23.5.733.50750

Weitzner MA, McMillan SC, Jacobsen PB. (1999). Family caregiver quality of life: Differences between curative and palliative cancer treatment settings. *J Pain Symptom Manag*. 17(6): 418-428. DOI: 10.1016/S0885-3924(99)00014-7

Werner E, Smith R. 1992. *Overcoming odds: high risk children from birth to adulthood*. Ithaca, NY: Cornell University Press.

Werner, E. E. (1984). Resilient children. *Young children*. 1, 68–72.

Weston, K. J., & Parkin, J. R., 2010. From at-risk to at-promise: The resilience movement. *Encyclopedia of Cross-Cultural School Psychology*. C. S. Clauss-Ehlers (Eds.). New York: Springer, pp. 808-815.

Wong, G., Greenhalgh, T., Westhorp, G., & Pawson, R. (2012). Realist methods in medical education research: what are they and what can they contribute?. *Medical education*, 46(1), 89-96. DOI: 10.1111/j.1365-2923.2011.04045.x

World Health Organization (WHO). Global Health Estimates 2020: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. WHO; 2020. Accessed

December 11, 2020. [who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghs-leading-causes-of-death](https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghs-leading-causes-of-death)

World Health Organization. (2022). *World mental health report: transforming mental health for all*.

Xia, C., Dong, X., Li, H., Cao, M., Sun, D., He, S., ... & Chen, W. (2022). Cancer statistics in China and United States, 2022: profiles, trends, and determinants. *Chinese medical journal*, 135(05), 584-590. DOI: 10.1097/CM9.00000000000002108

Zwahlen, D., Hagenbuch, N., Carley, M. I., Jenewein, J., & Buchi, S. (2010). Posttraumatic growth in cancer patients and partners—effects of role, gender and the dyad on couples' posttraumatic growth experience. *Psycho-oncology*, 19(1), 12-20. DOI: 10.1002/pon.1486