




Review

Psychosocial Aspects of Living Long Term with Advanced Cancer and Ongoing Systemic Treatment: A Scoping Review

Evie E. M. Kolsteren ^{1,*}, Esther Deuning-Smit ¹, Alanna K. Chu ², Yvonne C. W. van der Hoeven ¹, Judith B. Prins ¹, Winette T. A. van der Graaf ^{3,4}, Carla M. L. van Herpen ⁵, Inge M. van Oort ⁶, Sophie Lebel ², Belinda Thewes ⁷, Linda Kwakkenbos ^{1,8,9,10} and José A. E. Custers ¹

- ¹ Radboud University Medical Center, Radboud Institute for Health Sciences, Department of Medical Psychology, 6525 Nijmegen, The Netherlands
 - ² School of Psychology, University of Ottawa, Ottawa, ON K1N 6N5, Canada
 - ³ Department of Medical Oncology, Netherlands Cancer Institute, 1066 Amsterdam, The Netherlands
 - ⁴ Department of Medical Oncology, Erasmus MC Cancer Institute, Erasmus Medical Center, 3015 Rotterdam, The Netherlands
 - ⁵ Radboud University Medical Center, Radboud Institute for Health Sciences, Department of Medical Oncology, 6525 Nijmegen, The Netherlands
 - ⁶ Radboud University Medical Center, Radboud Institute for Health Sciences, Department of Urology, 6525 Nijmegen, The Netherlands
 - ⁷ School of Psychology, Sydney University, Camperdown 2050, Australia
 - ⁸ Clinical Psychology, Radboud University, 6525 Nijmegen, The Netherlands
 - ⁹ Radboud University Medical Center, Radboud Institute for Health Sciences, IQ Healthcare, 6525 Nijmegen, The Netherlands
 - ¹⁰ Radboud University Medical Center, Radboudumc Center for Mindfulness, Department of Psychiatry, 6525 Nijmegen, The Netherlands
- * Correspondence: evie.kolsteren@radboudumc.nl



Citation: Kolsteren, E.E.M.; Deuning-Smit, E.; Chu, A.K.; van der Hoeven, Y.C.W.; Prins, J.B.; van der Graaf, W.T.A.; van Herpen, C.M.L.; van Oort, I.M.; Lebel, S.; Thewes, B.; et al. Psychosocial Aspects of Living Long Term with Advanced Cancer and Ongoing Systemic Treatment: A Scoping Review. *Cancers* **2022**, *14*, 3889. <https://doi.org/10.3390/cancers14163889>

Academic Editors: Patricia Schofield and Philip R. Debruyne

Received: 4 July 2022

Accepted: 4 August 2022

Published: 11 August 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Simple Summary: An emerging group of advanced cancer patients are living long term on systemic treatment. However, studies examining the psychosocial impact of this prolonged cancer treatment trajectory are scarce. This scoping review summarizes findings on these psychosocial issues, as well as the terminology used to refer to these patients. Prominent psychosocial outcomes included uncertainty, anxiety, and fear of disease progression or death, hope, loss and worries about loved ones and changes in social life. These themes were not extensively investigated in research using validated psychological questionnaires. More quantitative research in this area should be conducted to further understand these psychological constructs. A large variety of terms used to refer to the patient group was observed, which calls for a uniform definition to better address this specific patient group in research and in practice. By identifying key themes and gaps in the literature, directions for future research and clinical practice can be provided.

Abstract: (1) Background: Studies examining the psychosocial impact of living long term on systemic treatment in advanced cancer patients are scarce. This scoping review aimed to answer the research question “What has been reported about psychosocial factors among patients living with advanced cancer receiving life-long systemic treatment?”, by synthesizing psychosocial data, and evaluating the terminology used to address these patients; (2) Methods: This scoping review was conducted following the five stages of the framework of Arksey and O’Malley (2005); (3) Results: 141 articles published between 2000 and 2021 (69% after 2015) were included. A large variety of terms referring to the patient group was observed. Synthesizing qualitative studies identified ongoing uncertainty, anxiety and fear of disease progression or death, hope in treatment results and new treatment options, loss in several aspects of life, and worries about the impact of disease on loved ones and changes in social life to be prominent psychosocial themes. Of 82 quantitative studies included in the review, 76% examined quality of life, 46% fear of disease progression or death, 26% distress or depression, and 4% hope, while few studies reported on adaptation or cognitive aspects. No quantitative studies focused on uncertainty, loss, or social impact; (4) Conclusion and clinical implications: Prominent psychosocial themes reported in qualitative studies were not included in quantitative research using

specific validated questionnaires. More robust studies using quantitative research designs should be conducted to further understand these psychological constructs. Furthermore, the diversity of terminology found in the literature calls for a uniform definition to better address this specific patient group in research and in practice.

Keywords: psychosocial oncology; advanced cancer; systemic treatment; uncertainty; fear; hope; loss; depression; social life; quality of life; scoping review

1. Introduction

Since the beginning of the 2000s, the approval of new systemic treatments based on increased progression-free and overall survival rates for patients with several types of advanced cancer has led to new standards of care. As a result of these developments, there is an emerging group of patients living longer with advanced cancer while being on continuous targeted treatment or on immunotherapy.

There is extensive literature reporting the psychosocial consequences of cancer in curative and end-of-life settings [1–4]. However, studies examining the psychosocial outcomes of living long term with advanced cancer in patients receiving ongoing systemic treatment and/or follow-up are scarce [5–7]. As the impact on patients and their loved ones' well-being and quality of life is expected to be considerable [8], it is crucial to examine these psychosocial outcomes to be able to support patients in their coping. Possible concerns include living long term with uncertainty about prognosis and treatment, imminent medication resistance, disease progression, and the possibility of an early death [9]. Several previous studies have observed increased anxiety around scans, referred to as 'scanxiety' [10], and fear of recurrence or progression and how patients dealt with this [11]. Emotional and social functioning, increased distress, and feelings of uncertainty have also been reported previously [9,11]. Patients living with metastatic GIST in long-term (partial) remission experiencing treatment side effects have been reported to have a limited daily quality of life [12]. On the other hand, feelings of hope have been reported, varying from hope for cure to hope for tumor stabilization or maintenance of quality of life [13,14]. The impact of experiencing longer survival while receiving systemic treatment is believed to be prominent for an emerging group of advanced cancer patients, but literature is scarce and focused on specific diagnoses, treatments, and outcomes. There is an urgent need to identify the most prominent themes and outcomes for this group of cancer patients in order to guide further research and to develop supportive interventions for patients based on theoretical models.

A complicating factor in addressing this patient group is the lack of a uniform term or definition. The stages in which cancer patients live are commonly categorized as curative, palliative, or terminal. While the intent of curative treatment is to make a patient cancer free, palliative treatment means that a cure is no longer possible, or at least very unlikely, and treatment is focused on prolonging life while maintaining quality of life as well as possible. The new group of patients who are living longer with advanced cancer with a poor and uncertain prognosis and who respond to one or more systemic treatment lines over longer periods of time does not fit this common classification between curative and palliative patients, and complicates the examination of this specific group because of this lack of appropriate terminology [8].

This scoping review aimed to answer the following research question: "What has been reported about the psychosocial aspects of living with advanced cancer receiving systemic treatment?" by giving a broad overview. Specific goals were to:

- Synthesize and categorize psychosocial outcomes that have been published in quantitative and qualitative papers;
- Summarize and evaluate the descriptions, definitions and terminology used in the literature to define patients with advanced cancer while receiving systemic treatment; and

- Detect knowledge gaps regarding psychosocial outcomes in advanced cancer patients.

2. Materials and Methods

This scoping review was conducted following the five stages of the framework of Arksey and O'Malley (2005) [15], incorporating the alterations of Levac et al. (2010) [16] and The Joanna Briggs Institute (2015), including: (1) developing the research question; (2) identifying eligible studies; (3) selecting studies; (4) charting the data; and (5) collating, summarizing and reporting the results. The reporting of this review followed the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) reporting guidelines [17,18]. In this section, we provide a brief summary of these steps as an extensive description of the protocol has been previously published [19].

The following research question was formulated: "What has been reported about the psychosocial aspects in patients with advanced cancer receiving life-long systemic treatment?". A comprehensive search strategy was developed (see Supplementary Table S1) and peer reviewed using the Peer Review of Electronic Search Strategy (PRESS) standard to identify empirical quantitative and qualitative studies, and non-empirical articles [20]. Studies involving adults currently diagnosed with advanced cancer and receiving lifelong or repetitive systemic treatment (i.e., chemotherapy, hormone therapy, immunotherapy and/or targeted therapy) and reporting at least one psychosocial outcome as a primary outcome were included. The search was conducted in six literature databases (MEDLINE, Embase, CINAHL, PsycINFO, Web of Science and the Cochrane Database of Systematic Review), with search limits set to English language articles, published after 2000, since the emergence of new systemic treatment options for advanced cancer, through to February 2021. First, two investigators independently reviewed the titles and abstracts of all articles identified through the search strategy. If one or both investigators deemed an article potentially eligible based on the inclusion criteria, then two investigators completed a full-text review to assess for eligibility, independently. Disagreements after full-text review were resolved by consensus, with a third investigator consulted when necessary, leading to a final set of articles for data extraction.

Two data-extraction forms were initially pilot tested, one for quantitative and mixed-methods studies, and one for qualitative studies, in a subset of 20 studies in total. Discrepancies were discussed and minor adaptations to the forms were made with input from the team. Further data extraction was independently performed by one researcher and verified by a second researcher. Quality assessment was conducted for each included study according to the 'Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields' [21] and verified by a second reviewer. All data from the included studies were charted, regardless of the study's quality score. For papers with a study design other than quantitative, qualitative or mixed methods (e.g., commentary, review), no data were extracted and no quality assessment was conducted. However, these studies were consulted for the terminology of advanced cancer and overall scope of the literature.

Qualitative data derived from studies with a qualitative or mixed-methods design were analyzed using a thematic synthesis approach. The results sections of these studies were coded line by line in ATLAS.ti (Scientific Software Development GmbH; version 9). The first five studies were coded individually by two researchers, leading to the development of a coding tree. Discrepancies were discussed until consensus was reached. The remaining studies were coded by one researcher and reviewed by a second researcher. Codes were grouped into sub themes, which were summarized into overall themes in an iterative process in consultation with team members.

3. Results

3.1. Publication Characteristics

The database searches yielded 16,015 papers. After removing duplicates, 11,678 unique papers were screened for title and abstract, leading to the exclusion of 11,193 papers. The

full texts of the remaining 485 papers were reviewed, resulting in 128 eligible articles. Thirteen additional eligible articles were identified by hand search of reference lists in eligible articles, resulting in a total of 141 publications that met the inclusion criteria and were included in the scoping review (Figure S1, Supplementary Materials).

The 141 included papers consisted of 82 (58%) quantitative studies [22–103], 25 (18%) qualitative studies [104–128], 6 (4%) studies with a mixed-methods design [129–134], and 28 (20%) papers categorized as ‘other’ (reviews, book chapters, editorials, letters, protocols) [5,6,8,135–158]. Most articles were published between 2015 and February 2021 ($n = 97$; 69%), 25 articles (18%) between 2010 and 2015, 10 (7%) articles between 2005 and 2010, and only nine (6%) articles between 2000 and 2005. Sixty-three (45%) studies were conducted in Europe (of which 5% were conducted in more than one European country), 51 (36%) in North America, 11 (8%) in Asia, nine (6%) in Australia, and one (1%) in Africa. Five (4%) studies included more than one country across different continents, and one (1%) paper did not report a country of origin.

Studies were carried out across a variety of advanced cancer diagnoses and treatments. The most frequent diagnoses were breast cancer ($n = 28$; 20%), prostate cancer ($n = 23$; 16%), lung cancer ($n = 16$; 11%), melanoma ($n = 11$; 8%) and renal cell carcinoma ($n = 10$; 7%). In 34 publications (24%), the study sample included several diagnoses. In 25 (18%) studies, patients received exclusively immunotherapy, in 21 (15%) studies chemotherapy, in 16 (11%) studies hormone therapy, and in 16 (11%) studies targeted therapy. Sixty-three (45%) studies reported on patients receiving several types of treatment, or a combination of more than one type of systemic therapy (e.g., chemotherapy and immunotherapy). Quality assessment summary scores ranged from 0.6 to 1 with a median of 0.8, mean score of 0.83, and standard deviation of 0.12. Supplementary File S3 includes the individual study characteristics of included qualitative (Table S2), quantitative (Table S3) and mixed-methods studies (Table S4).

3.2. Psychosocial Outcomes

The psychosocial outcomes of living with advanced cancer and receiving ongoing systemic treatment from qualitative and quantitative results, respectively, are summarized here. Table 1 provides an overview of the psychosocial themes and highlights the overlap and discordances between reported psychological outcomes from the qualitative and quantitative studies. Quantitative scores reported in individual studies can be found in Tables S2 and S4, and were not elaborated on separately for any of the psychosocial themes because of the great variety in terms of study design, study population, and instruments applied for measuring psychosocial aspects.

Table 1. Overview of psychosocial themes, concepts, and instruments.

| Themes in Qualitative Studies | Concepts in Quantitative Studies | Quantitative Instruments |
|-------------------------------|----------------------------------|---|
| | 1. Uncertainty | |
| Uncertainty | Not reported | Not quantified |
| | 2. Fear and anxiety | |
| Fear of cancer progression | Fear of disease progression | FoP-Q-SF [63] |
| Not reported | Fear of cancer recurrence | FCRI(-SF) [36,63]; CWS [36] |
| Fear of dying | Fear of death | Non-validated instrument [59] |
| Anxiety | Anxiety | BAS [27]; GAD-7 [62]; HADS-Anxiety [27,42,46–48,53,58,64,66–68,79–83,86,87,89–91,94,99]; HAM-A [46,48]; PROMIS-Anxiety [29]; SAS [102]; |
| Not reported | Intrusive thoughts | IES [23,24,36,41,48] |
| Not reported | (Post-traumatic) stress | PTSD-CV [88] |
| | 3. Loss | |
| Loss | Not reported | Not quantified |

Table 1. Cont.

| Themes in Qualitative Studies | Concepts in Quantitative Studies | Quantitative Instruments |
|--|----------------------------------|---|
| 4. Mood and depression | | |
| Not identified as separate theme but reported in relation to other psychosocial themes | Mood | POMS-TMD subscale [89] |
| Not identified as separate theme but reported in relation to other psychosocial themes | Depression | MADRS [27,48,69]; BDI [22,27,69,84,100]; HADS-Depression; [27,42,46–48,53,58,64,66–68,79–83,86,87,89–91,94,99]; PROMIS-Depression [29]; POMS-Depression [35]; PHQ-9 [46,56,62]; CES-D [28,35,102]; SDS [49] |
| Not identified as separate theme but reported in relation to other psychosocial themes | (Psychological) distress | BSI [35,41]; DT&PL [66,86]; K6 [132]; SCL-90 [22,27,97] |
| Not reported | Suicide | ICD-10 [78] |
| 5. Hope | | |
| Hope | Helplessness and hopelessness | MAC subscale hopelessness [57,89] |
| Not identified as separate theme but reported in relation to other psychosocial themes | Optimism | LoT-R [76] |
| Not reported | Treatment-specific optimism | Non-validated instrument [35] |
| 6. Social life | | |
| Impact on social life | Not reported | Not quantified |
| 7. (Health-related) Quality of Life ((HR)QoL) | | |
| Several aspects of (HR)QoL were reported in relation to other psychosocial themes | (HR)QoL | AQoL-8D [77]; CI-QoL-Q [96]; EORTC-QLQ-C30 [25,26,30–32,36,38,43,51,55,57,60,61,64,72,75,79,85–87,91,92,94,95,99,100,130,133,134]; EORTC-QLQ-C15-PAL [64]; EQ-5D [33,34,38,44,51,55,61,62,93,98,103,129]; ESAS [58,71]; FACIT [73]; FACT [28,29,37,39,40,42,44–48,50,54,56,58,64,71,82,83,90,93,98,101,129,132]; SF-12 [73]; SF-36 [23,24,70,74,88,102]; WHOQoL-BRIEF [103] |
| 8. Cognitive aspects/beliefs | | |
| Not reported | Treatment-related regret | DRS [52] |
| Not reported | Decisional conflict | DCS [52] |
| Not identified as separate theme but reported in relation to other psychosocial themes | Treatment beliefs | BMQ [149] |
| 9. Coping/adjustment | | |
| Not identified as separate theme but reported in relation to other psychosocial themes | Coping strategies | MCMQ [57] |
| Not reported | Mental adjustment to cancer | MAC [57,89] |
| Not identified as separate theme but reported in relation to other psychosocial themes | Acceptance | ICQ-acceptance [80,81] |
| Not reported | Self-efficacy | SES [79]; GSE [132] |
| Not identified as separate theme but reported in relation to other psychosocial themes | Spirituality | FACIT-SP [37] |

FoP-Q-SF: Fear of Progression Questionnaire–Short Form; FCRI-SF: Fear of Cancer Recurrence Inventory–Short Form; CWS: Cancer Worry Scale; BAS: Brief Anxiety Scale; GAD: General Anxiety Disorder; HADS: Hospital Anxiety and Depression Scale; HAM-A: Hamilton Anxiety Rating Scale; PROMIS: Patient-Reported Outcomes Measurement Information System; SAS: State Anxiety Scale; IES: Impact of Event Scale; PTSD-CV: Post-traumatic Stress Disorder–Civilian Version; POMS: Profile of Mood States; MADRS: Montgomery–Asberg Depression Rating Scale; BDI: Beck Depression Inventory; SCL-90: Symptom Check List-90; EQ-5D: EuroQol-5D; PHQ: Patient Health Questionnaire; CES-D: Center for Epidemiology Studies Depression Scale; FACT: Functional Assessment of Cancer Therapy; SF: Short Form Health Survey; MAC: Mental Adjustment to Cancer; SDS: Self-Rating Depression Scale; BSI: Brief Symptom Inventory; DT&PL: Distress Thermometer and Problem List; GSE: General Self-Efficacy Scale; K6: Kessler 6; ICD-10: International Classification of Diseases, 10th Revision; LOT-R: Life Orientation Test–Revised; EORTC-QLQ: European Organisation for Research and Treatment; AQoL: Assessment of Quality of Life; CI-QoL: Cancer Institute–Quality of Life Questionnaire; ESAS: Edmonton Symptom Assessment Scale; FACIT: Functional Assessment of Chronic Illness Therapy; WHOQoL-BRIEF: World Health Organization Quality of Life Brief Questionnaire; DRS: Decisional Regret Scale; DCS: Decisional Conflict Scale; BMQ: Beliefs about Medicine Questionnaire (BMQ); MCMQ: Medical Coping Modes Questionnaire; ICQ: Illness Cognition Questionnaire; SES: Self-Efficacy Scale.

3.2.1. Uncertainty

Living with uncertainty was a commonly reported consequence of living with advanced cancer receiving long-term systemic treatment across qualitative studies. Uncertainty centered around prognosis, availability of treatment options, and (potential) benefits or side effects of treatment. Patients equated starting (new) treatments with the often-uncertain outcomes of “gambling” and expressed fears about making the wrong treatment decisions. Uncertainty revolved around recurrent medical events such as scans or check-ups that impact the patient’s future perspective. Ongoing uncertainty complicated choices on a medical level as well as on a personal level, such as making plans for the future, leading to feelings of distress, despair, fear, and frustration. Patients experienced a loss of sense of control due to living with uncertainty, and reacted by seeking control in other areas. This included denying the possible negative outcomes of their disease and treatment and holding on to positive thoughts, adopting a healthy lifestyle, living day by day, and making future plans. Additionally, patients sought control in the medical setting by gaining as much medical information as possible in order to make their own treatment decisions, or by seeking trust in their (specialized) hospital, oncologist, and treatment. Another strategy for coping with uncertainty was accepting that the situation involves limited control and uncertainty.

No quantitative studies have reported on uncertainty as a psychosocial outcome.

3.2.2. Fear and Anxiety

In qualitative studies, patients reported fear around three main themes. First, fear of progression of the disease (e.g., because of, or while discontinuing, treatment); second, fear around treatment (e.g., about the potential impact of side effects on daily life, or treatment failure); and third, fear of dying or death (e.g., not feeling prepared for death). Patients applied several strategies to deal with these fears, including avoiding triggers such as talking or thinking about disease and death. They focused on life instead of death, focused on their treatment, and sought distraction by keeping busy and active, for example by exercising or seeking social company. Some patients prepared for their end of life in a practical way by discussing the possibility of end-of-life care or euthanasia with their doctors, or by adapting a spiritual approach for dealing with end of life and death.

Thirty-one of the 82 included quantitative studies (38%) examined anxiety using one or more questionnaires, including the Hospital Anxiety and Depression Scale (HADS) (n = 23; 74%), the Symptom Checklist-90 (SCL-90)–Anxiety subscale (n = 3; 10%), the Hamilton Anxiety rating scale (HAM-A) (n = 2; 6%), the Patient-Reported Outcomes Measurement Information System (PROMIS)–Anxiety questionnaire (n = 1; 3%), the Brief Anxiety Scale (BAS) (n = 1; 3%), the State Anxiety Scale (SAS) (n = 1; 3%), or the General Anxiety Disorder-7 scale (GAD-7) (n = 1; 3%). Three studies reported on fear of progression or recurrence with the Fear of Cancer Recurrence Inventory (FCRI), the Cancer Worry Scale (CWS), the Fear of Progression Short Form (FoP-Q-SF), and a non-validated questionnaire designed by the investigators themselves. Fear of death was examined in one study using a non-validated self-designed questionnaire. Six studies examined (post-traumatic) stress symptoms, and intrusive thoughts and avoidance by using the Impact of Event Scale (IES) or the Post-Traumatic Stress Disorder–Civilian Version questionnaire (PTSD-CV).

3.2.3. Loss

In qualitative studies, patients experienced losses in several domains. Patients experienced losses in their physical health because of their disease and treatment. Limitations in their normal activities, changes in physical appearance, and impaired functioning led to feelings of frustration and distress. Patients were concerned that they would eventually become dependent on others for help to perform daily activities. Additionally, patients experienced losses regarding their perspective on life. Some patients struggled to continue everyday life because they lost the ability to live their life untroubled. Feelings of anger and sadness were a consequence of their non-deliberately changed life, and the loss of

their former prospects for the future. Finally, patients were confronted with changes in their ability to work as they did prior to their diagnosis. They had lost or had to give up their jobs, leading to feelings of distress because of loss of income, missing the contact with former colleagues, the lack of a sense of purpose or being of value, and loss of self-esteem. These losses contributed to experiencing the loss of one's identity.

Patients dealt with their losses in various ways. Several patients mentioned accepting the costs of their disease, treatment, and the prospect of death in the nearer future, thereby accepting their new situation or 'new normal'. They adapted to the new situation, and readapted when the disease progressed. Patients adjusted by not allowing themselves to dwell on self-pity or negative thoughts. Other coping mechanisms were finding or searching for a (new) meaning in life, for instance by reconsidering life decisions or future plans, finding meaning in supporting fellow patients, or even in their own suffering. Patients also strived to focus on what remained, by trying to maintain normal life as much as possible, enjoying the small things in life and focusing on the here and now. Patients reported trying to be grateful for the time left, and some were even capable of putting their own situation into perspective and experiencing personal growth because of their disease.

No quantitative studies reported on loss as a psychosocial outcome.

3.2.4. Mood and Depression

In the qualitative studies, mood and depression were mentioned in the context of other psychosocial themes, but did not appear to be a prominent psychosocial outcome on its own. For example, patients mentioned feelings of sadness related to the death of fellow patients (related to the theme 'social life', see below), feelings of anger because of the loss of their life as it used to be (related to the theme 'loss'), or frustrations about the lack of (new) treatment options (related to 'hope and uncertainty').

A considerable part of the quantitative studies examined symptoms of depression. Twenty-three studies (74%) used the HADS–Depression subscale. Other studies applied one or more of the following questionnaires: the Beck Depression Inventory (BDI), the Montgomery–Asberg Depression Rating Scale (MADRS), the PROMIS–Depression, the Profile of Mood States (POMS)–Depression subscale, the Patient Health Questionnaire-9 (PHQ-9), the SCL-90–Depression subscale, the Center for Epidemiologic Studies–Depression scale (CES-D), or the Self-Rating Depression Scale (SDS). Psychological distress was examined with the Brief Symptom Inventory (BSI), the Distress thermometer and Problem list (DT&PL) and the six-item Kessler Psychological Distress Scale (K6). Mood was examined in one study using the Profile of Moods States (POMS) questionnaire, and one study reported on suicide by analyzing the prevalence of International Classification of Diseases and Related Health Problems (ICD-10) codes.

3.2.5. Hope

Patients also expressed feelings of hope and optimism. Hope was adopted as an adjustment mechanism in order to alter the situation to a more positive one, in order to reduce distress. Patients found hope in positive stories of fellow patients and from peer support. Hope was often expressed in the context of treatment results: maintaining hope for new treatment options, feeling lucky to be able to receive treatment and to benefit from it, hope that treatment would improve quality of life or maintain the possibility of living a normal life, hope that treatment would prolong life, that the cancer would become a chronic condition, or would even be cured. Particularly when receiving trial medication, hope was centered on the unknown positive treatment outcomes and the possibility of further treatment options becoming available in time. Positive treatment results increased feelings of hope, while negative treatment results or disease progression led to increased feelings of hopelessness or complete loss of hope for the future, adding to the continuous struggle between staying hopeful and being realistic or in despair.

Quantitative results involving measures of hope and optimism were scarce: two studies (2%) applied the Mental Adjustment to Cancer scale (MAC), which contains a subscale

score assessing helplessness. One study (1%) examined treatment-specific optimism with a self-developed non-validated scale. Another study (1%) applied the Beliefs about Medicine Questionnaire–Specific (BMQ) to report on treatment beliefs in relation to adverse events and permanent medication stoppages.

3.2.6. Social Life

Living longer with advanced cancer and systemic treatment had a profound effect on patients' social life. Patients found it difficult to deal with the emotions of their loved ones, and experienced feelings of guilt and worry regarding the impact of their illness and future death on loved ones. In addition, feelings of shame occurred, for instance when patients were not able to keep up their work in order to provide for their families. In some cases, patients reported that friends and family found it difficult to understand their condition, which they believed was a consequence of the social or societal misconception that cancer is either curative or terminal. The fact that people do not always look sick on long-term treatments compounded these difficulties. Family, friends, peers, and peer support groups were an important source of support for many patients, although cancer progression or death of fellow patients led to increased feelings of sadness and distress and constituted a confrontation with their own situation. Several patients described losing relationships because of their altered circumstances. Sometimes, patients worried about missing milestones of their loved ones, for instance, attending their grandchildren's graduation, but at the same time they maintained hope. Patients tried to protect their loved ones from emotional strain, some by minimizing talking about their situation, and others by actively involving and informing loved ones about their disease, treatment, and plans for the phase of dying. For patients with young children, talking about death was considered emotionally challenging. For some, the motivation to continue treatment was to stay alive for their loved ones.

No instruments specifically measuring relationship factors or the social impact were used in quantitative studies.

3.2.7. Quality of Life

In their struggle to weigh length of extended life against quality of life, some patients expressed not feeling ready to die, and having nothing to lose while receiving ongoing systemic treatment. These patients adopted a fighting spirit with the goal of prolonging life. However, not all patients were willing to prolong life at any cost, referring to the life-long uncertainty and the impact of (potential) treatment side effects.

Distinct aspects of quality of life (mental health, emotional well-being, and social belonging) were reported in the qualitative studies, where the majority of the quantitative studies examined general QoL or Health-Related Quality of Life (HRQoL). The European Organization for Research and Treatment for Cancer Quality of Life Questionnaire (EORTC-QLQ-C30) and the Functional Assessment of Cancer Therapy questionnaire (FACT; including the -General (n = 19), FACT-Breast (n = 7), FACT-Prostate (n = 4) and FACT-Lung (n = 2)) were the most frequently applied, in 29 (35%) and 25 (30%) of the 82 quantitative papers, respectively. The EuroQol 5D (EQ-5D; n = 11), the 36- or 12-item Short-Form Health Survey (SF-36; SF-12, n = 6), the Edmonton Symptom Assessment System (ESAS; n = 2), the Assessment of Quality of Life (AQoL-8D; n = 1), the Cancer Institute Quality of Life Questionnaire (CI-QoL-Q; n = 1), the Functional Assessment of Chronic Illness Therapy (FACIT; n = 1), or the abbreviated World Health Organisation Quality of Life questionnaire (WHOQoL-BREF; n = 1) were used less frequently. The general QoL baseline mean scores and, if applicable, baseline mean scores for the emotional functioning (EORTC-QLQ-C30) or emotional wellbeing (FACT; SF) subscales were extracted (Table S2). However, because of the diversity of instruments applied in patients with different diagnoses, the variety of disease stages, and the diverse treatments received, scores were not elaborated upon in this section.

3.3. Terminology

From the qualitative studies, we extracted how patients perceived or referred to their disease. Patients mentioned being aware that their treatment was life-prolonging instead of curative, and that death was inevitable in the near future. Some referred to their condition as “living between life and death”, or “between hope and despair”. However, others considered having advanced cancer to be similar to having any other chronic disease, and were not aware of, or not willing to consider, an inevitable death. Disease and treatment were perceived as an inconvenience, and death was not felt as being near. In relation to cancer terminology, patients associated ‘palliative care’ with a shortened lifespan, and some had negative associations with the term ‘terminal’.

The large diversity in terms found in publications used to refer to advanced cancer patients receiving ongoing systemic treatment is summarized in Tables S2–S4. The majority of papers used the terms “advanced”, “metastatic”, or “incurable”, and “cancer” or “disease”, or a combination thereof (e.g., “advanced metastatic cancer”), to indicate the disease stage. Few studies used terms like “late-stage”, “palliative” or “terminally ill” patients. Terms to indicate ongoing systemic treatment or treatment response were “undergoing [type of] treatment/therapy”, “receiving systemic treatment”, “receiving metastatic [type of] cancer treatment”, “long-term responders”, or patients “who achieved a durable response to therapy”. These terms were often combined with terms indicating the disease stage. Several terms specified the permanent status of having to live with the disease, including a life-limiting prognosis, such as “living with life-prolonging therapy”, “living (longer) with metastatic cancer”, “chronic advanced or metastatic cancer”, “life-limiting illness without cure” or “patients with metastatic disease and a limited life expectancy”. Last, several expressions associated with ‘surviving’ were noted, for example, “long-term survivors”, “metastatic cancer survivors”, “metavivorship”, “new survivor population” or “not surviving after but with cancer”.

4. Discussion

This scoping review outlined the current literature, including 141 papers on the psychosocial consequences of living long term with advanced cancer and ongoing systemic treatment, and summarized the terminology used to refer to these patients.

Reported psychological outcomes included (1) ongoing uncertainty, (2) anxiety and fear about disease progression, treatment and death, and (3) hope for positive treatment effects and new treatment options, (4) losses in several domains of life, and (5) the disease having a profound impact on their loved ones and social relationships. All these aspects affected general quality of life, and patients experienced feelings of distress and depression with which they tried to cope in several ways.

Uncertainty appeared to be the most prominent concern. Feelings of ongoing uncertainty were perceived with respect to the diagnosis and prognosis, scan results, the potential occurrence of cancer progression, future perspectives, and dying. As observed in this literature overview and confirmed by previous literature, experiencing uncertainty led to feelings of worry, fear, and anxiety [159]. Fear and anxiety, relating to a present or definite danger, or a future or indefinite danger respectively, are common among patients with various chronic diseases, including advanced cancer [160]. Fear of progression occurs in the state of a persistent disease and differs from fear of recurrence which relates to a state where clear episodes of complete remission and subsequent relapse can occur [161]. Our results on advanced cancer patients receiving ongoing treatment indicated fear of progression focused on uncertainty around scans and scan results, potential disease progression, and dying.

The counterpart of feelings of uncertainty and fear in a precarious balance is hope. Hope emerges when a situation is considered to be uncertain [162]. As recently hypothesized by Balen and Merluzzi (2021), uncertainty is perceived to be a major element of hope. In the context of a serious disease such as advanced cancer with high uncertainty regarding the effectiveness of treatments, hope seems to be crucial in handling the situation. As

theorized by Herth in 1990 [163], hope is focused on prospects and goals in the future. Our results accordingly showed that patients' hope was focused on positive treatment effects and the possibility of subsequent treatment options in the case of treatment resistance, as well as achieving future milestones, such as attending the wedding of a loved one, or seeing children or grandchildren growing up. In addition to uncertainty, control is related to hope as well [162]. Control consists of active behavior and internal cognitive processes that an individual can actuate to maintain hope [164]. In the papers included in our study, patients' active behavior in tackling feelings of lack of control was characterized by seeking control through medical knowledge, adopting a healthy lifestyle, and actively making plans for the future. Seeking control through increasing knowledge was found among various chronic diseases [161], emphasizing the importance of informing patients accurately and completely in order to diminish uncertainty as much as possible. Cognitive processes to gain control were characterized by putting trust in the oncologist and treatment and finding (new) meaning in the challenging situation of advanced illness, sometimes aided by a spiritual approach. In contrast to patients with curative or terminal cancer diagnoses, advanced cancer patients face a changing long-term situation regarding their disease trajectory, leading to continuous uncertainty that calls for hope in order to carry on.

These prominent psychological mechanisms and their interrelationships give directions for healthcare professionals to pay attention to and act upon. Seeking control and providing hope in the management of uncertainty can be guided by doctors and nurses by concretely informing patients about prognosis, treatment possibilities, and waiting times for scan results. Furthermore, counselling of patients during their disease trajectory may be desired for some, for instance, with the aim of assisting patients to accept the aspects of their situation that cannot be controlled, finding a sense of control in aspects of daily life, and helping them to find new meaning in life, using a powerful construct like hope in achieving short-term goals.

Having advanced cancer and receiving ongoing treatment has a profound social impact [165]. Patients mentioned changes in their social life, regularly preceded by the inability of others to fully comprehend the patient's situation. Adding to this is the judgement of others with respect to patients' appearance or functioning, which has been reported in the previous literature as well [165], and patients described the stigmatization of others, assuming that they must do and/or feel good when they appear to look good or were able to keep up normal activities such as going to the sports club or on holidays. In general, patients found support in social contacts, which helped them to hold on to future milestones with loved ones, or continuing treatment. For some patients, peer support was of great added value. However, some patients tend to compare themselves with fellow patients that have more severe disease or have experienced negative treatment outcomes. Previous research shows that this downward comparison increases uncertainty and fear of progression, leading to worse health states, including increased feelings of distress [161].

Moreover, comparable to what has been found in patients with other chronic diseases, a significant concern for patients was the impact of the disease on their loved ones, including the emotional burden caused, and having to leave their loved ones behind [161]. This was most apparent for close family members, such as partners and children. It is, therefore, important to actively involve partners in the disease trajectory and to regularly check in on their mental functioning and needs as well. Future research on the patient-caregiver relationship could also provide insight into this dyadic process and can assist in the development of tools for support. Within this research, it is important to include the caregiver perspective, as their concerns might be different from what is reported by patients. Furthermore, to prevent social isolation, patients and partners could benefit from support on how to communicate about their partner's disease and situation with others, in order to gain a feeling for what they can control in this matter and how to cope with misunderstandings.

Given the long-term, continually changing situation regarding the patient's disease trajectory, response shift is likely to occur. Response shift is a psychological process defined

by Sprangers and Schwartz (1999) as “the change in an individual’s internal standards, values or conceptualisations that occurs in response to a particular catalyst such as illness” [166]. It delineates people’s adjustment in terms of expectations and/or goals in order to accommodate their changed circumstances, which is necessary for maintaining a good quality of life. Advanced cancer patients are recurrently challenged to adjust to their changing circumstances, for example, when treatment fails or disease progression occurs, which continuously threatens or alters their quality of life. This aligns with the losses that patients described in almost every domain of life. Response-shift was observed as repetitively readapting by finding or searching for a (new) meaning in life, and reconsidering life decisions or future plans. Patients also strived to focus on what remained, enjoying the small things in life and focusing on the here and now.

How well patients are able to cope might vary among people and through time. Although the majority of quantitative studies measured QoL as psychosocial outcome, it is not clear how QoL changes over time in an ongoing changing situation of a life-long progressive disease. However, in the case of a life-limiting disease, maintaining quality of life is a central goal, and the psychosocial, emotional, and spiritual components of QoL seem to be significant contributors to wellbeing. Although physically incapacitated, patients can still experience a high quality of life [167]. While these QoL components have been addressed separately in qualitative research, several quantitative studies, including most clinical trials focused on measuring general quality of life, emphasized the physical scales or global QoL scores [168]. Furthermore, psychosocial aspects have often been examined by applying general instruments instead of disease-specific instruments. A benefit of this approach is that it improves the comparability between different studies and different patient groups in the previous literature, but it adds little to the increasing knowledge of specific psychosocial outcomes relevant for advanced cancer patients receiving long-term systemic treatment. Together with the issue of response shift, which is likely to occur more frequently in advanced cancer patients, this calls for research focused on a longer-term examination of quality of life and psychosocial mechanisms. Specific instruments on uncertainty, fear, hope and loss, validated for this patient population, are required to gain insight in the prevalence, predictors, and course of psychosocial consequences of living long-term with advanced cancer.

In this scoping review, patients with varying advanced cancer diagnoses and diverse systemic treatment types, whether or not combined with non-systemic therapies like radiotherapy or surgery, were examined. The great variety in terminology used to refer to patients with advanced cancer receiving ongoing systemic treatment complicates research, as it is difficult to survey the literature in this field and to compare research results. To increase knowledge of the specific (psychosocial) needs of this patient group, uniformity and consensus on terminology is vital. Although some patients advocate terms as survivors(hip) or metavivors [6,8], others do not recognize themselves in these terms, as they might implicate absence of disease. These terms might be more applicable to those who achieve complete remission after immunotherapy (e.g., some melanoma patients). For patients with active disease who are benefitting from systemic treatments, a term like ‘long-term responders’ could be more suitable and helpful for research purposes once codesigned or verified with relevant stakeholders such as patients, caregivers and others involved. We therefore call for a broad discussion and consensus on terminology to be used in future studies, to be able to move this growing field of research forward effectively.

In the absence of a universal term, our extensive search strategy (Table S1, Supplementary Materials) combined terms on advanced disease, systemic treatments, and psychosocial outcomes. This resulted in the inclusion of a relatively large number of quantitative studies examining systemic treatments and psychosocial outcomes such as global QoL, whereas (qualitative) studies that did not mention treatment-related terms in the title, abstract or keywords might have been missed. On the other hand, leaving treatment terms out of our search was not feasible, as it led to a multiplication of the number of articles found primarily. A strength of this study is the wide scope of information on psychosocial outcomes across

heterogeneous study populations (cancer diagnoses and treatments), study types, and applied instruments. Although the majority of quantitative studies used the EORTC-QLQ-C30 or FACT questionnaires to measure QoL, a meta-analysis of the quantitative results was beyond the scope of our study, and an overall conclusion on quantitative results was therefore not given. While our study provides a useful overview of common psychological themes in advanced cancer, future research is needed into the specific challenges and needs for subgroups of patients related to different treatment modalities. For instance, targeted therapies might be continued when effective, while immunotherapy might be discontinued after a certain period based on individual response. Insight into these unique challenges will assist in developing tailored psychosocial support.

5. Conclusions

Due to the rapid developments in systemic treatment options improving progression-free and overall survival rates, an increasing number of patients with various advanced cancer diagnoses will receive more lines of life-prolonging systemic treatment for longer periods of time. Among 141 studies, the qualitative studies showed that these patients deal with uncertainty, fear, hope, loss, and worry about social life. As these specific issues were not studied extensively in quantitative studies, more research is needed on the prevalence, severity, and course of the psychosocial outcomes, as well as on theoretical models for future interventions in this specific patient group. We recommend the use of validated instruments to quantify specific psychosocial outcomes relevant for this newly recognized distinct group of locally advanced and metastatic cancer patients receiving novel and long-term systemic treatments, guided by suitable terminology in accordance with patients, researchers, and health care professionals.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/cancers14163889/s1>, Figure S1. PRISMA-ScR Flow chart; Table S1. Search strategy (Medline); Table S2. Data-extraction table of quantitative studies; Table S3. Data-extraction table of qualitative studies; Table S4. Data-extraction table of mixed-methods studies.

Author Contributions: Conceptualization, E.E.M.K., E.D.-S., J.A.E.C., J.B.P. and W.T.A.v.d.G.; Methodology, E.E.M.K., E.D.-S., A.K.C., Y.C.W.v.d.H., J.A.E.C., L.K.; writing—original draft preparation, E.E.M.K., E.D.-S., J.A.E.C., L.K.; writing—review and editing, E.E.M.K., E.D.-S., J.A.E.C., L.K., J.B.P., W.T.A.v.d.G., A.K.C., Y.C.W.v.d.H., C.M.L.v.H., I.M.v.O., S.L., B.T.; supervision, J.A.E.C.; funding acquisition, J.A.E.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by a grant of the Koningin Wilhelmina Fonds (KWF) Dutch Cancer Society (11889).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Further data is available upon request.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

References

1. Kyota, A.; Kanda, K. How to come to terms with facing death: A qualitative study examining the experiences of patients with terminal Cancer. *BMC Palliat. Care* **2019**, *18*, 33. [[CrossRef](#)] [[PubMed](#)]
2. Yi, J.C.; Syrjala, K.L. Anxiety and Depression in Cancer Survivors. *Med. Clin. N. Am.* **2017**, *101*, 1099–1113. [[CrossRef](#)] [[PubMed](#)]
3. Coelho, A.R.N.; Parola, V.; Cardoso, D.; Bravo, M.E.; Apostolo, J.L.A. Use of non-pharmacological interventions for comforting patients in palliative care: A scoping review. *JBI Database Syst. Rev. Implement. Rep.* **2017**, *15*, 1867–1904. [[CrossRef](#)] [[PubMed](#)]
4. Luijckes-Huizer, Y.L.; Tauber, N.M.; Humphris, G.; Kasparian, N.A.; Lam, W.W.T.; Lebel, S.; Simard, S.; Ben Smith, A.; Zachariae, R.; Afyanti, Y.; et al. What is the prevalence of fear of cancer recurrence in cancer survivors and patients? A systematic review and individual participant data meta-analysis. *Psycho-Oncology* **2022**, *31*, 879–892. [[CrossRef](#)]

5. Rogiers, A.; Boekhout, A.; Schwarze, J.K.; Awada, G.; Blank, C.U.; Neyns, B. Long-Term Survival, Quality of Life, and Psychosocial Outcomes in Advanced Melanoma Patients Treated with Immune Checkpoint Inhibitors. *J. Oncol.* **2019**, *2019*, 5269062. [[CrossRef](#)]
6. Langbaum, T.; Smith, T.J. Time to Study Metastatic-Cancer Survivorship. *N. Engl. J. Med.* **2019**, *380*, 1300–1302. [[CrossRef](#)]
7. Sundquist, M.; Brudin, L.; Tejler, G. Improved survival in metastatic breast cancer 1985–2016. *Breast* **2017**, *31*, 46–50. [[CrossRef](#)]
8. Tometich, D.B.; Hyland, K.A.; Soliman, H.; Jim, H.S.L.; Oswald, L. Living with Metastatic Cancer: A Roadmap for Future Research. *Cancers* **2020**, *12*, 3684. [[CrossRef](#)]
9. Dunn, J.; Watson, M.; Aitken, J.F.; Hyde, M.K. Systematic review of psychosocial outcomes for patients with advanced melanoma. *Psycho-Oncology* **2016**, *26*, 1722–1731. [[CrossRef](#)]
10. Custers, J.A.; Davis, L.; Messiou, C.; Prins, J.B.; van der Graaf, W.T. The patient perspective in the era of personalized medicine: What about scanxiety? *Cancer Med.* **2021**, *10*, 2943–2945. [[CrossRef](#)]
11. Lai-Kwon, J.; Heynemann, S.; Flore, J.; Dhillon, H.; Duffy, M.; Burke, J.; Briggs, L.; Leigh, L.; Mileskin, L.; Solomon, B.; et al. Living with and beyond metastatic non-small cell lung cancer: The survivorship experience for people treated with immunotherapy or targeted therapy. *J. Cancer Surviv.* **2021**, *15*, 392–397. [[CrossRef](#)]
12. Fauske, L.; Hompland, I.; Lorem, G.; Hall, K.S.; Bondevik, H. Striving towards Normality in Daily Life: A Qualitative Study of Patients Living with Metastatic Gastrointestinal Stromal Tumour in Long-Term Clinical Remission. *Sarcoma* **2020**, *2020*, 1814394. [[CrossRef](#)]
13. DeMartini, J.; Fenton, J.J.; Epstein, R.; Duberstein, P.; Cipri, C.; Tancredi, D.; Xing, G.; Kaesberg, P.; Kravitz, R.L. Patients’ Hopes for Advanced Cancer Treatment. *J. Pain Symptom Manag.* **2018**, *57*, 57–63.e2. [[CrossRef](#)]
14. Fauske, L.; Wærstad, P.H.; Hompland, I.; Bruland, Ø.S. Hope as a Lifeline: Imatinib Discontinuation in Patients with Oligometastatic Gastrointestinal Stromal Tumours. *Anticancer Res.* **2022**, *42*, 955–963. [[CrossRef](#)]
15. Arksey, H.; O’Malley, L. Scoping studies: Towards a methodological framework. *Int. J. Soc. Res. Methodol.* **2005**, *8*, 19–32. [[CrossRef](#)]
16. Levac, D.; Colquhoun, H.; O’Brien, K. Scoping studies: Advancing the methodology. *Implement. Sci.* **2010**, *5*, 1–9. [[CrossRef](#)]
17. Moher, D.; Liberati, A.; Tetzlaff, J.; Altman, D.G.; PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Int. J. Surg.* **2010**, *8*, 336–341. [[CrossRef](#)]
18. Tricco, A.C.; Lillie, E.; Zarin, W.; O’Brien, K.K.; Colquhoun, H.; Levac, D.; Moher, D.; Peters, M.D.; Horsley, T.; Weeks, L.; et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann. Intern. Med.* **2018**, *169*, 467–473. [[CrossRef](#)]
19. Kolsteren, E.E.M.; Deuning-Smit, E.; Prins, J.B.; van der Graaf, A.W.T.; van Herpen, C.M.L.; Lebel, S.; Thewes, B.; Kwakkenbos, L.; Custers, J.A.E. Psychological aspects in patients with advanced cancer receiving lifelong systemic treatment: Protocol for a scoping review. *BMJ Open* **2021**, *11*, e042404. [[CrossRef](#)]
20. McGowan, J.; Sampson, M.; Salzwedel, D.M.; Cogo, E.; Foerster, V.; Lefebvre, C. PRESS Peer Review of Electronic Search Strategies: 2015 Guideline Statement. *J. Clin. Epidemiol.* **2016**, *75*, 40–46. [[CrossRef](#)]
21. Kmet, L.M.; Lee, R.C.; Cook, L.S. *Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields*; Education and Research Archive: Edmonton, Canada, 2004.
22. Mulder, S.F.; Bertens, D.; Desar, E.I.M.; Vissers, K.C.P.; Mulders, A.P.F.; Punt, A.C.J.; Van Spronsen, D.-J.; Langenhuijsen, J.F.; Kessels, R.P.C.; Van Herpen, C.M.L. Impairment of cognitive functioning during Sunitinib or Sorafenib treatment in cancer patients: A cross sectional study. *BMC Cancer* **2014**, *14*, 219. [[CrossRef](#)]
23. Cohen, L.; Parker, P.A.; Sterner, J.; De Moor, C. Quality of life in patients with malignant melanoma participating in a phase I trial of an autologous tumour-derived vaccine. *Melanoma Res.* **2002**, *12*, 505–511. [[CrossRef](#)]
24. Cohen, L.; de Moor, C.; Parker, A.P.; Amato, R.J. Quality of life in patients with metastatic renal cell carcinoma participating in a phase I trial of an autologous tumor-derived vaccine. *Urol. Oncol. Semin. Orig. Investig.* **2002**, *7*, 119–124. [[CrossRef](#)]
25. Adamowicz, K.; Baczkowska-Waliszewska, Z. Prognostic Value of Knowledge of Cancer and Used Unconventional Therapy Methods on Quality of Life in Advanced, Metastatic Colorectal Cancer in Clinical Practice. *J. Cancer Educ.* **2018**, *35*, 151–158. [[CrossRef](#)]
26. Adamowicz, K.; Baczkowska-Waliszewska, Z. Quality of life during chemotherapy, hormonotherapy or antiHER2 therapy of patients with advanced, metastatic breast cancer in clinical practice. *Health Qual. Life Outcomes* **2020**, *18*, 1–9. [[CrossRef](#)]
27. Bannink, M.; Kruit, W.H.; Van Gool, A.R.; Sleijfer, S.; Van Der Holt, B.; Eggermont, A.M.; Stoter, G.; Hengeveld, M.W. Interferon- α in Oncology Patients: Fewer Psychiatric Side Effects Than Anticipated. *J. Psychosom. Res.* **2008**, *49*, 56–63. [[CrossRef](#)]
28. Benedict, C.; Traeger, L.; Dahn, J.R.; Antoni, M.; Zhou, E.S.; Bustillo, N.; Penedo, F.J. Sexual Bother in Men with Advanced Prostate Cancer Undergoing Androgen Deprivation Therapy. *J. Sex. Med.* **2014**, *11*, 2571–2580. [[CrossRef](#)]
29. Bergerot, C.D.; Bergerot, P.G.; Philip, E.J.; Hsu, J.A.; Dizman, N.; Vaishampayan, U.; Dorff, T.; Pal, S.K. Perception of cure among patients with metastatic genitourinary cancer initiating immunotherapy. *J. Immunother. Cancer* **2019**, *7*, 71. [[CrossRef](#)]
30. Bjelic-Radisic, V.; Fitzal, F.; Knauer, M.; Steger, G.; Egle, D.; Greil, R.; Schrenk, P.; Balic, M.; Singer, C. Primary surgery versus no surgery in synchronous metastatic breast cancer: Patient-reported quality-of-life outcomes of the prospective randomized multicenter ABCSG-28 Positive Trial. *BMC Cancer* **2020**, *20*, 1–15. [[CrossRef](#)]

31. Boevé, L.; Hulshof, M.C.; Verhagen, P.C.; Twisk, J.W.; Witjes, W.P.; de Vries, P.; van Moorselaar, R.J.A.; van Andel, G.; Vis, A.N. Patient-reported Quality of Life in Patients with Primary Metastatic Prostate Cancer Treated with Androgen Deprivation Therapy with and Without Concurrent Radiation Therapy to the Prostate in a Prospective Randomised Clinical Trial; Data from the HORRAD Trial. *Eur. Urol.* **2020**, *79*, 188–197. [[CrossRef](#)]
32. Carmichael, C.; Yuh, B.E.; Sun, V.; Lau, C.; Hsu, J.; Saikia, J.; Liu, X.; Wilson, T.; Ferrell, B.; Pal, S.K. Quality of Life in Patients with Metastatic Renal Cell Carcinoma: Assessment of Long-Term Survivors. *Clin. Genitourin. Cancer* **2012**, *11*, 149–154. [[CrossRef](#)] [[PubMed](#)]
33. Çiçin, İ.; Çiltaş, A.; Kılıçkap, S.; Öksüzöğlü, Ö.; Uncu, D.; Artaç, M.; Çinkır, H.; Işıkdoğan, A.; Dane, F.; Aliustaoğlu, M.; et al. Third-line Therapy for Metastatic Renal Cell Carcinoma and Its Effect on Quality of Life and Overall Survival: A National, Multicenter, Observational Study. *J. Oncol. Sci.* **2020**, *6*, 87–95. [[CrossRef](#)]
34. Claessens, A.K.M.; Ramaekers, B.L.T.; Lobbezoo, D.J.A.; Van Kampen, R.J.W.; De Boer, M.; Van De Wouw, A.J.; Dercksen, M.W.; Geurts, S.M.E.; Joore, M.A.; Tjan-Heijnen, V.C.G. Quality of life in a real-world cohort of advanced breast cancer patients: A study of the SONABRE Registry. *Qual. Life Res.* **2020**, *29*, 3363–3374. [[CrossRef](#)] [[PubMed](#)]
35. Cohen, L.; De Moor, C.; Amato, R.J. The association between treatment-specific optimism and depressive symptomatology in patients enrolled in a Phase I cancer clinical trial. *Cancer* **2001**, *91*, 1949–1955. [[CrossRef](#)]
36. Custers, J.A.; Tielen, R.; Prins, J.B.; de Wilt, J.H.; Gielissen, M.F.; van der Graaf, W.T. Fear of progression in patients with gastrointestinal stromal tumors (GIST): Is extended lifetime related to the Sword of Damocles? *Acta Oncol.* **2015**, *54*, 1202–1208. [[CrossRef](#)]
37. Daugherty, C.K.; Fitchett, G.; Murphy, P.E.; Peterman, A.H.; Banik, D.M.; Hlubocky, F.; Tartaro, J. Trusting God and medicine: Spirituality in advanced cancer patients volunteering for clinical trials of experimental agents. *Psycho-Oncology* **2004**, *14*, 135–146. [[CrossRef](#)]
38. Davie, A.; Carter, G.C.; Rider, A.; Pike, J.; Lewis, K.; Bailey, A.; Price, G.L.; Ringeisen, F.; Pivot, X. Real-world patient-reported outcomes of women receiving initial endocrine-based therapy for HR+/HER2- advanced breast cancer in five European countries. *BMC Cancer* **2020**, *20*, 855. [[CrossRef](#)]
39. Davies, A.; Trask, P.; Demeter, J.; Florschütz, A.; Hänel, M.; Kinoshita, T.; Pettengell, R.; Quach, H.; Robinson, S.; Sadullah, S.; et al. Health-related quality of life in the phase III GALLIUM study of obinutuzumab- or rituximab-based chemotherapy in patients with previously untreated advanced follicular lymphoma. *Ann. Hematol.* **2020**, *99*, 2837–2846. [[CrossRef](#)]
40. Denouel, A.; Heutte, N.; Escudier, B.; Kurtz, J.-E.; Dos Santos, M.; Longato, N.; Desrues, L.; Dauchy, S.; Lange, M.; Sevin, E.; et al. Sexual Disorders of Patients with Metastatic Renal Cell Carcinoma (mRCC) Treated with Antiangiogenic Therapies. *Clin. Genitourin. Cancer* **2018**, *16*, 369–375.e1. [[CrossRef](#)]
41. Devine, D.; Parker, P.A.; Fouladi, R.T.; Cohen, L. The association between social support, intrusive thoughts, avoidance, and adjustment following an experimental cancer treatment. *Psycho-Oncology* **2003**, *12*, 453–462. [[CrossRef](#)]
42. El-Jawahri, A.; Traeger, L.; Park, E.R.; Greer, J.A.; Pirl, W.; Lennes, I.T.; Jackson, V.A.; Rn, E.R.G.; Temel, J.S. Associations among prognostic understanding, quality of life, and mood in patients with advanced cancer. *Cancer* **2013**, *120*, 278–285. [[CrossRef](#)]
43. Fasching, P.A.; Beck, J.T.; Chan, A.; De Laurentiis, M.; Esteva, F.J.; Jerusalem, G.; Neven, P.; Pivot, X.; Bianchi, G.V.; Martin, M.; et al. Ribociclib plus fulvestrant for advanced breast cancer: Health-related quality-of-life analyses from the MONALEESA-3 study. *Breast* **2020**, *54*, 148–154. [[CrossRef](#)]
44. Fizazi, K.; Kramer, G.; Eymard, J.-C.; Sternberg, C.N.; de Bono, J.; Castellano, D.; Tombal, B.; Wülfing, C.; Lontos, M.; Carles, J.; et al. Quality of life in patients with metastatic prostate cancer following treatment with cabazitaxel versus abiraterone or enzalutamide (CARD): An analysis of a randomised, multicentre, open-label, phase 4 study. *Lancet Oncol.* **2020**, *21*, 1513–1525. [[CrossRef](#)]
45. Goebell, P.J.; Münch, A.; Müller, L.; Hurtz, H.J.; Koska, M.; Busies, S.; Marschner, N. A cross-sectional investigation of fatigue in advanced renal cell carcinoma treatment: Results from the FAMOUS study. *Urol. Oncol.* **2014**, *32*, 362–370.
46. Greer, J.A.; Jacobs, J.; Pensak, N.; MacDonald, J.J.; Fuh, C.-X.; Perez, G.K.; Ward, A.; Tallen, C.; Muzikansky, A.; Traeger, L.; et al. Randomized Trial of a Tailored Cognitive-Behavioral Therapy Mobile Application for Anxiety in Patients with Incurable Cancer. *Oncology* **2019**, *24*, 1111–1120. [[CrossRef](#)]
47. Greer, J.A.; Pirl, W.F.; Park, E.R.; Lynch, T.J.; Temel, J.S. Behavioral and psychological predictors of chemotherapy adherence in patients with advanced non-small cell lung cancer. *J. Psychosom. Res.* **2008**, *65*, 549–552. [[CrossRef](#)]
48. Greer, J.A.; Traeger, L.; Bemis, H.; Solis, J.; Hendriksen, E.S.; Park, E.R.; Pirl, W.F.; Temel, J.S.; Prigerson, H.G.; Safren, S.A. A Pilot Randomized Controlled Trial of Brief Cognitive-Behavioral Therapy for Anxiety in Patients with Terminal Cancer. *Oncologist* **2012**, *17*, 1337–1345. [[CrossRef](#)]
49. Guo, X.; Xu, J.; Ying, E.; Yu, Z.; Sun, T. Correlation between hormone receptor status and depressive symptoms in patients with metastatic breast cancer. *Oncotarget* **2017**, *8*, 50774–50781. [[CrossRef](#)]
50. Gupta, S.; Zhang, J.; Jerusalem, G. The association of chemotherapy versus hormonal therapy and health outcomes among patients with hormone receptor-positive, HER2–negative metastatic breast cancer: Experience from the patient perspective. *Expert Rev. Pharm. Outcomes Res.* **2014**, *14*, 929–940. [[CrossRef](#)]

51. Harbeck, N.; Franke, F.; Villanueva-Vazquez, R.; Lu, Y.-S.; Tripathy, D.; Chow, L.; Babu, G.K.; Im, Y.-H.; Chandiwana, D.; Gaur, A.; et al. Health-related quality of life in premenopausal women with hormone-receptor-positive, HER2-negative advanced breast cancer treated with ribociclib plus endocrine therapy: Results from a phase III randomized clinical trial (MONALEESA-7). *Ther. Adv. Med. Oncol.* **2020**, *12*, 1758835920943065. [[CrossRef](#)]
52. Hollen, P.J.; Gralla, R.J.; Gentzler, R.D.; Hall, R.D.; Coyne, B.; Cheng, H.; Halmos, B.; Gildersleeve, J.; Calderon, C.; Hinton, I.; et al. Do Patients Regret Having Received Systemic Treatment for Advanced Non-Small Cell Lung Cancer: A Prospective Evaluation. *Oncology* **2020**, *26*, 224–230. [[CrossRef](#)] [[PubMed](#)]
53. Jehn, C.F.; Flath, B.; Strux, A.; Krebs, M.; Possinger, K.; Pezzutto, A.; Lüftner, D. Influence of age, performance status, cancer activity, and IL-6 on anxiety and depression in patients with metastatic breast cancer. *Breast Cancer Res. Treat.* **2012**, *136*, 789–794. [[CrossRef](#)]
54. Joly, F.; Oudard, S.; Fizazi, K.; Tubach, F.; Jove, J.; Lacueille, C.; Lamarque, S.; Guiard, E.; Balestra, A.; Droz-Perroteau, C.; et al. Quality of Life and Pain During Treatment of Metastatic Castration-resistant Prostate Cancer with Cabazitaxel In Routine Clinical Practice. *Clin. Genitourin. Cancer* **2020**, *18*, e510–e516. [[CrossRef](#)] [[PubMed](#)]
55. Joseph, R.W.; Liu, F.X.; Shillington, A.C.; Macahilig, C.P.; Diede, S.J.; Dave, V.; Harshaw, Q.; Saretsky, T.L.; Pickard, A.S. Health-related quality of life (QoL) in patients with advanced melanoma receiving immunotherapies in real-world clinical practice settings. *Qual. Life Res.* **2020**, *29*, 2651–2660. [[CrossRef](#)] [[PubMed](#)]
56. Khalaf, D.J.; Sunderland, K.; Eigl, B.; Kollmannsberger, C.K.; Ivanov, N.; Finch, D.L.; Oja, C.; Vergidis, J.; Zulfiqar, M.; Gleave, M.; et al. Health-related Quality of Life for Abiraterone Plus Prednisone Versus Enzalutamide in Patients with Metastatic Castration-resistant Prostate Cancer: Results from a Phase II Randomized Trial. *Eur. Urol.* **2018**, *75*, 940–947. [[CrossRef](#)] [[PubMed](#)]
57. Kissane, D.W.; Grabsch, B.; Love, A.; Clarke, D.M.; Bloch, S.; Smith, G.C. Psychiatric Disorder in Women with Early Stage and Advanced Breast Cancer: A Comparative Analysis. *Aust. N. Z. J. Psychiatry* **2004**, *38*, 320–326. [[CrossRef](#)]
58. Lacey, J.; Lomax, A.J.; McNeil, C.; Marthick, M.; Levy, D.; Kao, S.; Nielsen, T.; Dhillon, H.M. A supportive care intervention for people with metastatic melanoma being treated with immunotherapy: A pilot study assessing feasibility, perceived benefit, and acceptability. *Support. Care Cancer* **2019**, *27*, 1497–1507. [[CrossRef](#)]
59. Lai-Kwon, J.; Khoo, C.; Lo, S.; Milne, D.; Mohamed, M.; Raleigh, J.; Smith, K.; Lisy, K.; Sandhu, S.; Jefford, M. The survivorship experience for patients with metastatic melanoma on immune checkpoint and BRAF-MEK inhibitors. *J. Cancer Surviv.* **2019**, *13*, 503–511. [[CrossRef](#)]
60. Lee, S.; Im, S.-A.; Kim, G.; Jung, K.; Kang, S.; Park, I.; Kim, J.; Lee, K.; Ahn, H.; Lee, M.; et al. Patient-Reported Outcomes of Palbociclib Plus Exemestane with GnRH Agonist versus Capecitabine in Premenopausal Women with Hormone Receptor-Positive Metastatic Breast Cancer: A Prospective, Open-Label, Randomized Phase II Trial (KCSG-BR 15-10). *Cancers* **2020**, *12*, 3265. [[CrossRef](#)]
61. Long, G.V.; Atkinson, V.; Ascierto, P.A.; Robert, C.; Hassel, J.C.; Rutkowski, P.; Savage, K.J.; Taylor, F.; Coon, C.; Gilloteau, I.; et al. Effect of nivolumab on health-related quality of life in patients with treatment-naïve advanced melanoma: Results from the phase III CheckMate 066 study. *Ann. Oncol.* **2016**, *27*, 1940–1946. [[CrossRef](#)]
62. Lu, Y.-S.; Lee, K.S.; Chao, T.-Y.; Tseng, L.-M.; Chitapanarux, I.; Chen, S.-C.; Liu, C.-T.; Sohn, J.; Kim, J.H.; Chang, Y.-C.; et al. A Phase Ib Study of Alpelisib or Buparlisib Combined with Tamoxifen Plus Goserelin in Premenopausal Women with HR-Positive HER2-Negative Advanced Breast Cancer. *Clin. Cancer Res.* **2021**, *27*, 408–417. [[CrossRef](#)]
63. Lynch, A.F.; Katona, L.; Jefford, M.; Ben Smith, A.; Shaw, J.; Dhillon, H.M.; Ellen, S.; Phipps-Nelson, J.; Lai-Kwon, J.; Milne, D.; et al. Feasibility and Acceptability of Fear-Less: A Stepped-Care Program to Manage Fear of Cancer Recurrence in People with Metastatic Melanoma. *J. Clin. Med.* **2020**, *9*, 2969. [[CrossRef](#)]
64. Marschner, N.; Zacharias, S.; Lordick, F.; Hegewisch-Becker, S.; Martens, U.; Welt, A.; Hagen, V.; Gleiber, W.; Bohnet, S.; Kruggel, L.; et al. Association of Disease Progression with Health-Related Quality of Life Among Adults with Breast, Lung, Pancreatic, and Colorectal Cancer. *JAMA Netw. Open* **2020**, *3*, e200643. [[CrossRef](#)]
65. Marshall, V.K.; Given, C.W.; Sikorskii, A.; Given, B.A.; Lehto, R.H. How adverse events and permanent medication stoppages affect changes in patients' beliefs about oral antineoplastic agents. *Support. Care Cancer* **2019**, *28*, 2589–2596. [[CrossRef](#)]
66. McFarland, D.C. New lung cancer treatments (immunotherapy and targeted therapies) and their associations with depression and other psychological side effects as compared to chemotherapy. *Gen. Hosp. Psychiatry* **2019**, *60*, 148–155. [[CrossRef](#)]
67. McFarland, D.C.; Jutagir, D.R.; Miller, A.H.; Breitbart, W.; Nelson, C.; Rosenfeld, B. Tumor Mutation Burden and Depression in Lung Cancer: Association with Inflammation. *J. Natl. Compr. Cancer Netw.* **2020**, *18*, 434–442. [[CrossRef](#)]
68. McFarland, D.C.; Shaffer, K.; Breitbart, W.; Rosenfeld, B.; Miller, A.H. C-reactive protein and its association with depression in patients receiving treatment for metastatic lung cancer. *Cancer* **2019**, *125*, 779–787. [[CrossRef](#)]
69. Mir, O.; Salvador, A.; Dauchy, S.; Ropert, S.; Lemogne, C.; Gaillard, R. Everolimus induced mood changes in breast cancer patients: A case-control study. *Investig. New Drugs* **2017**, *36*, 503–508. [[CrossRef](#)]
70. Miyake, H.; Harada, K.-I.; Inoue, T.-A.; Fujisawa, M. Assessment of health-related quality of life in Japanese patients with metastatic renal cell carcinoma during treatment with tyrosine kinase inhibitors. *Med. Oncol.* **2014**, *31*, 190. [[CrossRef](#)]
71. Moschetti, L.; Mentuccia, L.; Vici, P.; Quadrini, S.; Sperduti, I.; Pizzuti, L.; Fabbri, M.A.; Vaccaro, A.; Saccà, M.M.; Barba, M.; et al. ESAS and FACT-B in eribulin-treated metastatic breast cancer patients: A multicenter, prospective and observational study. *Futur. Oncol.* **2017**, *13*, 1517–1525. [[CrossRef](#)]

72. Mu, X.-L.; Li, L.-Y.; Zhang, X.-T.; Wang, S.-L.; Wang, M.-Z. Evaluation of safety and efficacy of gefitinib ('iressa', zd1839) as monotherapy in a series of Chinese patients with advanced non-small-cell lung cancer: Experience from a compassionate-use programme. *BMC Cancer* **2004**, *4*, 51. [[CrossRef](#)]
73. Murray, L.K.; Bennett, E.K. The short-term effects of resistance training on quality of life, cancer related fatigue, body composition, and physical function in men with advanced and metastatic prostate cancer receiving androgen deprivation therapy: A pilot study. *Phys. Ther. Rev.* **2020**, *25*, 238–245. [[CrossRef](#)]
74. O'Reilly, A.; Hughes, P.; Mann, J.; Lai, Z.; Teh, J.J.; Mclean, E.; Edmonds, K.; Lingard, K.; Chauhan, D.; Lynch, J.; et al. An immunotherapy survivor population: Health-related quality of life and toxicity in patients with metastatic melanoma treated with immune checkpoint inhibitors. *Support. Care Cancer* **2019**, *28*, 561–570. [[CrossRef](#)]
75. Osoba, D.; Slamon, D.J.; Burchmore, M.; Murphy, M. Effects on Quality of Life of Combined Trastuzumab and Chemotherapy in Women with Metastatic Breast Cancer. *J. Clin. Oncol.* **2002**, *20*, 3106–3113. [[CrossRef](#)]
76. Oswald, L.B.; Kasimer, R.; Rappazzo, K.; Fought, A.J.; Penson, D.F.; Morgans, A.K. Patient expectations of benefit from systemic treatments for metastatic prostate cancer. *Cancer Med.* **2019**, *9*, 980–987. [[CrossRef](#)]
77. Parente, P.; Ng, S.; Parnis, F.; Guminski, A.; Gurney, H. Cabazitaxel in patients with metastatic castration-resistant prostate cancer: Safety and quality of life data from the Australian early access program. *Asia-Pac. J. Clin. Oncol.* **2017**, *13*, 391–399. [[CrossRef](#)]
78. Patasius, A.; Kincius, M.; Kazlauskas, E.; Smailyte, G. The role of androgen-deprivation therapy on suicide among patients with advanced prostate cancer: A nationwide population-based cohort study. *Psycho-Oncology* **2019**, *28*, 2098–2100. [[CrossRef](#)] [[PubMed](#)]
79. Paterson, C.; Primeau, C.; Nabi, G. A pilot randomised controlled trial of a multimodal supportive care (ThriverCare) intervention for managing unmet supportive care needs in men with metastatic prostate cancer on hormonal treatment and their partner/caregivers. *Eur. J. Oncol. Nurs.* **2018**, *37*, 65–73. [[CrossRef](#)] [[PubMed](#)]
80. Peters, M.E.W.J.; Goedendorp, M.M.; Verhagen, C.A.H.H.V.M.; Bleijenberg, G.; van der Graaf, W.T.A. Fatigue and its associated psychosocial factors in cancer patients on active palliative treatment measured over time. *Support. Care Cancer* **2015**, *24*, 1349–1355. [[CrossRef](#)] [[PubMed](#)]
81. Peters, M.E.W.J.; Goedendorp, M.M.; Verhagen, S.A.H.H.V.M.; van der Graaf, W.T.A.; Bleijenberg, G. Exploring the contribution of psychosocial factors to fatigue in patients with advanced incurable cancer. *Psycho-Oncology* **2014**, *23*, 773–779. [[CrossRef](#)] [[PubMed](#)]
82. Poort, H.; Jacobs, J.M.; Pirl, W.F.; Temel, J.S.; Greer, J.A. Fatigue in patients on oral targeted or chemotherapy for cancer and associations with anxiety, depression, and quality of life. *Palliat. Support. Care* **2019**, *18*, 141–147. [[CrossRef](#)]
83. Quist, M.; Adamsen, L.; Rørth, M.; Laursen, J.H.; Christensen, K.B.; Langer, S.W. The Impact of a Multidimensional Exercise Intervention on Physical and Functional Capacity, Anxiety, and Depression in Patients with Advanced-Stage Lung Cancer Undergoing Chemotherapy. *Integr. Cancer Ther.* **2015**, *14*, 341–349. [[CrossRef](#)]
84. Rouanne, M.; Massard, C.; Hollebecque, A.; Rousseau, V.; Varga, A.; Gazzah, A.; Neuzillet, Y.; Lebret, T.; Soria, J.-C. Evaluation of sexuality, health-related quality-of-life and depression in advanced cancer patients: A prospective study in a Phase I clinical trial unit of predominantly targeted anticancer drugs. *Eur. J. Cancer* **2013**, *49*, 431–438. [[CrossRef](#)]
85. Ryoo, B.; Merle, P.; Kulkarni, A.S.; Cheng, A.; Bouattour, M.; Lim, H.Y.; Breder, V.; Edeline, J.; Chao, Y.; Ogasawara, S.; et al. Health-related quality-of-life impact of pembrolizumab versus best supportive care in previously systemically treated patients with advanced hepatocellular carcinoma: KEYNOTE-240. *Cancer* **2020**, *127*, 865–874. [[CrossRef](#)]
86. Schuurhuizen, C.S.E.W.; Braamse, A.M.J.; Konings, I.R.H.M.; Verheul, H.M.W.; Dekker, J. Predictors for use of psychosocial services in patients with metastatic colorectal cancer receiving first line systemic treatment. *BMC Cancer* **2019**, *19*, 1–10. [[CrossRef](#)]
87. Schuurhuizen, C.S.; Braamse, A.M.; Beekman, A.T.; Cuijpers, P.; Van Der Linden, M.H.; Hoogendoorn, A.W.; Berkhof, H.; Sommeijer, D.W.; Lustig, V.; Vrijaldenhoven, S.; et al. Screening and Stepped Care Targeting Psychological Distress in Patients with Metastatic Colorectal Cancer: The TES Cluster Randomized Trial. *J. Natl. Compr. Cancer Netw.* **2019**, *17*, 911–920. [[CrossRef](#)]
88. Selvi, I.; Basar, H. Subcapsular orchiectomy versus total orchiectomy and LHRH analogue in the treatment of hormone-sensitive metastatic prostate cancer: A different perspective in evaluation of the psychosocial effects. *Support. Care Cancer* **2020**, *28*, 4313–4326. [[CrossRef](#)]
89. Sherliker, L.; Steptoe, A. Coping with new treatments for cancer: A feasibility study of daily diary measures. *Patient Educ. Couns.* **2000**, *40*, 11–19. [[CrossRef](#)]
90. Shin, J.A.; El-Jawahri, A.; Parkes, A.; Schleicher, S.M.; Knight, H.P.; Temel, J.S. Quality of Life, Mood, and Prognostic Understanding in Patients with Metastatic Breast Cancer. *J. Palliat. Med.* **2016**, *19*, 863–869. [[CrossRef](#)]
91. Slama, O.; Pochop, L.; Sedo, J.; Svancara, J.; Sedova, P.; Svetlakova, L.; Demlova, R.; Vyzula, R. Effects of Early and Systematic Integration of Specialist Palliative Care in Patients with Advanced Cancer: Randomized Controlled Trial PALINT. *J. Palliat. Med.* **2020**, *23*, 1586–1593. [[CrossRef](#)]
92. Mclouth, L.E.S.; Lycan, T.W.; Levine, B.J.; Gabbard, J.; Ruiz, J.; Farris, M.; Grant, S.C.; Pajewski, N.M.; Weaver, K.E.; Petty, W.J. Patient-Reported Outcomes from Patients Receiving Immunotherapy or Chemoimmunotherapy for Metastatic Non-Small-Cell Lung Cancer in Clinical Practice. *Clin. Lung Cancer* **2019**, *21*, 255–263.e4. [[CrossRef](#)]

93. Stenzl, A.; Dunshee, C.; De Giorgi, U.; Alekseev, B.; Iguchi, T.; Szmulewitz, R.Z.; Flaig, T.W.; Tombal, B.; Morlock, R.; Ivanescu, C.; et al. Effect of Enzalutamide plus Androgen Deprivation Therapy on Health-related Quality of Life in Patients with Metastatic Hormone-sensitive Prostate Cancer: An Analysis of the ARCHES Randomised, Placebo-controlled, Phase 3 Study. *Eur. Urol.* **2020**, *78*, 603–614. [[CrossRef](#)]
94. Taarnhøj, G.A.; Johansen, C.; Lindberg, H.; Basch, E.; Dueck, A.; Pappot, H. Patient reported symptoms associated with quality of life during chemo- or immunotherapy for bladder cancer patients with advanced disease. *Cancer Med.* **2020**, *9*, 3078–3087. [[CrossRef](#)]
95. Thom, B.; Mamoor, M.; Lavery, J.A.; Baxi, S.S.; Khan, N.; Rogak, L.J.; Sidlow, R.; Korenstein, D. The experience of financial toxicity among advanced melanoma patients treated with immunotherapy. *J. Psychosoc. Oncol.* **2020**, *39*, 285–293. [[CrossRef](#)]
96. Udupa, K.; Rajendranath, R.; Sagar, T. Comparison study of quality of life in advanced lung cancer patients on tyrosine kinase inhibitor and platinum doublet chemotherapy. *Indian J. Cancer* **2017**, *54*, 161. [[CrossRef](#)]
97. Van Gool, A.; Verkerk, R.; Fekkes, D.; Sleijfer, S.; Bannink, M.; Kruit, W.; Van Der Holt, B.; Scharpé, S.; Eggermont, A.; Stoter, G.; et al. Plasma Activity of Prolyl Endopeptidase in Relation to Psychopathology During Immunotherapy with IFN- α in Patients with Renal Cell Carcinoma. *J. Interf. Cytokine Res.* **2008**, *28*, 283–286. [[CrossRef](#)]
98. Verrill, M.; Wardley, A.M.; Retzler, J.; Smith, A.B.; Bottomley, C.; Dhochartaigh, S.N.; Tran, I.; Leslie, I.; Schmid, P. Health-related quality of life and work productivity in UK patients with HER2-positive breast cancer: A cross-sectional study evaluating the relationships between disease and treatment stage. *Health Qual. Life Outcomes* **2020**, *18*, 1–12. [[CrossRef](#)] [[PubMed](#)]
99. Wang, Y.; Song, B.; Zhang, Y.; Li, H. Evaluation and predictive factors analyses for patient-self-reported depression, anxiety and quality of life in patients with metastatic renal cell carcinoma underwent interferon- α treatment: A prospective cohort study. *Transl. Cancer Res.* **2018**, *7*, 1460–1473. [[CrossRef](#)]
100. Westdorp, H.; Creemers, J.H.A.; Van Oort, I.M.; Mehra, N.; Bree, S.M.H.-D.; Figdor, C.G.; Witjes, J.A.; Schreibelt, G.; De Vries, I.J.M.; Gerritsen, W.R.; et al. High Health-Related Quality of Life During Dendritic Cell Vaccination Therapy in Patients With Castration-Resistant Prostate Cancer. *Front. Oncol.* **2020**, *10*, 536700. [[CrossRef](#)] [[PubMed](#)]
101. Wood, R.; Mitra, D.; de Courcy, J.; Iyer, S. Patient-reported Quality of Life and Treatment Satisfaction in Patients With HR(+)/HER2(-) Advanced/Metastatic Breast Cancer. *Clin. Ther.* **2017**, *39*, 1719–1728. [[CrossRef](#)]
102. Wyatt, G.; Sikorskii, A.; Tamkus, D.; You, M. Quality of life among advanced breast cancer patients with and without distant metastasis. *Eur. J. Cancer Care* **2012**, *22*, 272–280. [[CrossRef](#)]
103. Yang, S.-C.; Lin, C.-C.; Lai, W.-W.; Chang, S.-M.; Hwang, J.-S.; Su, W.-C.; Wang, J.-D. Dynamic changes in quality of life after three first-line therapies for EGFR mutation-positive advanced non-small-cell lung cancer. *Ther. Adv. Med. Oncol.* **2018**, *10*. [[CrossRef](#)]
104. Al Achkar, M.; Marchand, L.; Thompson, M.; Chow, L.Q.M.; Revere, D.; Baldwin, L.-M. Unmet needs and opportunities for improving care for patients with advanced lung cancer on targeted therapies: A qualitative study. *BMJ Open* **2020**, *10*, e032639. [[CrossRef](#)]
105. Brown, P.; de Graaf, S.; Hillen, M.; Smets, E.; van Laarhoven, H. The interweaving of pharmaceutical and medical expectations as dynamics of micro-pharmaceuticalisation: Advanced-stage cancer patients' hope in medicines alongside trust in professionals. *Soc. Sci. Med.* **2015**, *131*, 313–321. [[CrossRef](#)]
106. Buiting, H.M.; Terpstra, W.; Dalhuisen, F.; Gunnink-Boonstra, N.; Sonke, G.; Hartogh, G.D. The Facilitating Role of Chemotherapy in the Palliative Phase of Cancer: Qualitative Interviews with Advanced Cancer Patients. *PLoS ONE* **2013**, *8*, e77959. [[CrossRef](#)]
107. Catt, S.; Matthews, L.; May, S.; Payne, H.; Mason, M.; Jenkins, V. Patients' and partners' views of care and treatment provided for metastatic castrate-resistant prostate cancer in the UK. *Eur. J. Cancer Care* **2019**, *28*, e13140. [[CrossRef](#)]
108. Finlayson, C.S.; Fu, M.R.; Squires, A.; Applebaum, A.; Van Cleave, J.; O'Ceirbhail, R.; DeRosa, A.P. The Experience of Being Aware of Disease Status in Women with Recurrent Ovarian Cancer: A Phenomenological Study. *J. Palliat. Med.* **2019**, *22*, 377–384. [[CrossRef](#)]
109. Gray, P.B.; Meintjes, F.; Moshokoa, E.; Mathabe, K. A qualitative exploration of South African men's perceived effects of Androgen Deprivation Therapy (ADT) as a treatment for advanced prostate cancer. *Aging Male* **2020**, *23*, 1266–1274. [[CrossRef](#)]
110. Grimsbø, G.H.; Finset, A.; Ruland, C.M. Left hanging in the air: Experiences of living with cancer as expressed through E-mail communications with oncology nurses. *Cancer Nurs.* **2011**, *34*, 107–116. [[CrossRef](#)]
111. Grunfeld, E.A.; Halliday, A.; Martin, P.; Drudge-Coates, L. Andropause syndrome in men treated for metastatic prostate cancer: A qualitative study of the impact of symptoms. *Cancer Nurs.* **2012**, *35*, 63–69. [[CrossRef](#)]
112. Holmstrom, S.; Naidoo, S.; Turnbull, J.; Hawryluk, E.; Paty, J.; Morlock, R. Symptoms and Impacts in Metastatic Castration-Resistant Prostate Cancer: Qualitative Findings from Patient and Physician Interviews. *Patient Patient Cent. Outcomes Res.* **2018**, *12*, 57–67. [[CrossRef](#)]
113. Hulin, C.; Hansen, T.; Heron, L.; Pughe, R.; Streetly, M.; Plate, A.; Perkins, S.; Morgan, K.; Tinel, A.; Rodrigues, F.; et al. Living with the burden of relapse in multiple myeloma from the patient and physician perspective. *Leuk. Res.* **2017**, *59*, 75–84. [[CrossRef](#)]
114. Karlsson, M.; Friberg, F.; Wallengren, C.; Öhlén, J. Meanings of existential uncertainty and certainty for people diagnosed with cancer and receiving palliative treatment: A life-world phenomenological study. *BMC Palliat. Care* **2014**, *13*, 28. [[CrossRef](#)]
115. Kaufman, H.L.; Barbosa, C.D.; Guillemin, I.; Lambert, J.; Mahnke, L.; Bharmal, M. Living with Merkel Cell Carcinoma (MCC): Development of a Conceptual Model of MCC Based on Patient Experiences. *Patient Patient-Cent. Outcomes Res.* **2018**, *11*, 439–449. [[CrossRef](#)]

116. Kvale, K.; Synnes, O. Living with life-prolonging chemotherapy-control and meaning-making in the tension between life and death. *Eur. J. Cancer Care* **2017**, *27*, e12770. [[CrossRef](#)]
117. Levy, D.; Dhillon, H.M.; Lomax, A.; Marthick, M.; McNeil, C.; Kao, S.; Lacey, J. Certainty within uncertainty: A qualitative study of the experience of metastatic melanoma patients undergoing pembrolizumab immunotherapy. *Support. Care Cancer* **2018**, *27*, 1845–1852. [[CrossRef](#)]
118. Macdonald, N.; Shapiro, A.; Bender, C.; Paolantonio, M.; Coombs, J. Experiences and perspectives on the GIST patient journey. *Patient Preference Adherence* **2012**, *6*, 253–262. [[CrossRef](#)]
119. Milne, D.; Hyatt, A.; Billett, A.; Gough, K.; Krishnasamy, M. Exploring the Experiences of People Treated with Immunotherapies for Advanced Melanoma and Those Caring for Them: “Real-World” Data. *Cancer Nurs.* **2019**, *43*, E97–E104. [[CrossRef](#)]
120. Mohammed, S.; Peter, E.; Gastaldo, D.; Howell, D. The medicalisation of the dying self: The search for life extension in advanced cancer. *Nurs. Inq.* **2019**, *27*, e12316. [[CrossRef](#)]
121. Mosher, C.E.; Johnson, C.; Dickler, M.; Norton, L.; Massie, M.J.; DuHamel, K. Living with Metastatic Breast Cancer: A Qualitative Analysis of Physical, Psychological, and Social Sequelae. *Breast J.* **2013**, *19*, 285–292. [[CrossRef](#)]
122. Poort, H.; Fenton, A.T.; Thompson, E.; Dinardo, M.M.; Liu, J.F.; Arch, J.J.; Wright, A.A. Lived experiences of women reporting fatigue during PARP inhibitor maintenance treatment for advanced ovarian cancer: A qualitative study. *Gynecol. Oncol.* **2020**, *160*, 227–233. [[CrossRef](#)] [[PubMed](#)]
123. Pujol, J.-L.; Roch, B.; Roth, C.; Mérel, J.-P. Qualitative study of patients’ decision-making when accepting second-line treatment after failure of first-line chemotherapy. *PLoS ONE* **2018**, *13*, e0197605. [[CrossRef](#)]
124. Svensson, H.; Brandberg, Y.; Einbeigi, Z.; Hatschek, T.; Ahlberg, K. Psychological Reactions to Progression of Metastatic Breast Cancer: An Interview Study. *Cancer Nurs.* **2009**, *32*, 55–63. [[CrossRef](#)] [[PubMed](#)]
125. Thorne, S.E.; Oliffe, J.L.; Oglov, V.; Gelmon, K. Communication Challenges for Chronic Metastatic Cancer in an Era of Novel Therapeutics. *Qual. Health Res.* **2013**, *23*, 863–875. [[CrossRef](#)] [[PubMed](#)]
126. Walsh, C.A.; Al Achkar, M. A qualitative study of online support communities for lung cancer survivors on targeted therapies. *Support. Care Cancer* **2021**, *29*, 4493–4500. [[CrossRef](#)]
127. Wickersham, K.E.; Happ, M.B.; Bender, C.M.; Engberg, S.J.; Tarhini, A.; Erlen, J.A. Surviving with lung cancer: Medication-taking and oral targeted therapy. *Geriatr. Nurs.* **2014**, *35*, S49–S56. [[CrossRef](#)]
128. Wong, A.; Billett, A.; Milne, D. Balancing the Hype with Reality: What Do Patients with Advanced Melanoma Consider When Making the Decision to Have Immunotherapy? *Oncologist* **2019**, *24*, e1190–e1196. [[CrossRef](#)]
129. Ito, T.; Grant, L.; Duckham, B.R.; Ribbands, A.J.; Gater, A. Qualitative and Quantitative Assessment of Patient and Carer Experience of Chemotherapy (Docetaxel) in Combination with Androgen Deprivation Therapy (ADT) for the Treatment of Metastatic Hormone-Sensitive Prostate Cancer (mHSPC). *Adv. Ther.* **2018**, *35*, 2186–2200. [[CrossRef](#)]
130. Paterson, C.; Kata, S.G.; Nandwani, G.; Chaudhury, D.D.; Nabi, G. Unmet Supportive Care Needs of Men with Locally Advanced and Metastatic Prostate Cancer on Hormonal Treatment: A Mixed Methods Study. *Cancer Nurs.* **2017**, *40*, 497–507. [[CrossRef](#)]
131. Ihrig, A.; Richter, J.; Grülllich, C.; Apostolidis, L.; Horak, P.; Villalobos, M.; Grapp, M.; Friederich, H.-C.; Maatouk, I. Patient expectations are better for immunotherapy than traditional chemotherapy for cancer. *J. Cancer Res. Clin. Oncol.* **2020**, *146*, 3189–3198. [[CrossRef](#)]
132. Komatsu, H.; Yagasaki, K.; Yamaguchi, T.; Mori, A.; Kawano, H.; Minamoto, N.; Honma, O.; Tamura, K. Effects of a nurse-led medication self-management programme in women with oral treatments for metastatic breast cancer: A mixed-method randomised controlled trial. *Eur. J. Oncol. Nurs.* **2020**, *47*, 101780. [[CrossRef](#)]
133. Mieras, A.; Pasman, H.R.W.; Klop, H.T.; Onwuteaka-Philipsen, B.D.; Tarasevych, S.; Tiemessen, M.A.; Becker-Commissaris, A. What Goals Do Patients and Oncologists Have When Starting Medical Treatment for Metastatic Lung Cancer? *Clin. Lung Cancer* **2021**, *22*, 242–251.e5. [[CrossRef](#)]
134. Charalambous, A.; Kouta, C. Cancer Related Fatigue and Quality of Life in Patients with Advanced Prostate Cancer Undergoing Chemotherapy. *BioMed Res. Int.* **2016**, *2016*, 3989286. [[CrossRef](#)]
135. Barse, P.M. Issues in the treatment of metastatic breast cancer. *Semin. Oncol. Nurs.* **2000**, *16*, 197–205. [[CrossRef](#)]
136. Batra, A.; Marchioni, M.; Hashmi, A.Z.; Lonergan, P.E.; Morgans, A.K.; Nead, K.T.; Nguyen, P.L.; Winquist, E.; Chin, J.L. Cognition and depression effects of androgen receptor axis-targeted drugs in men with prostate cancer: A systematic review. *J. Geriatr. Oncol.* **2021**, *12*, 687–695. [[CrossRef](#)]
137. Ben-Arye, E.; Ben-Arye, Y.; Barak, Y. Eva between anxiety and hope: Integrating anthroposophic music therapy in supportive oncology care. *Health Psychol. Res.* **2015**, *3*, 2199. [[CrossRef](#)]
138. Catania, C. Afraid That I’ll Not Be Afraid—A Paradox of Care. *JAMA Oncol.* **2017**, *3*, 1469–1470. [[CrossRef](#)]
139. Cella, D. Quality of life in patients with metastatic renal cell carcinoma: The importance of patient-reported outcomes. *Cancer Treat. Rev.* **2009**, *35*, 733–737. [[CrossRef](#)]
140. Da Mata, A.M. Advanced breast cancer: Living and dying in the shadows of EBC. *Br. J. Nurs.* **2014**, *23*, S48–S49. [[CrossRef](#)]
141. Daneault, S.; Dion, D.; Sicotte, C.; Yelle, L.; Mongeau, S.; Lussier, V.; Coulombe, M.; Paillé, P. Hope and noncurative chemotherapies: Which affects the other? *J. Clin. Oncol.* **2010**, *28*, 2310–2313. [[CrossRef](#)]
142. Ganz, P.A.; Stanton, A.L. Living with Metastatic Breast Cancer. *Adv. Exp. Med. Biol.* **2015**, *862*, 243–254.
143. Harmer, V. Breast cancer. Part 3: Advanced cancer and psychological implications. *Br. J. Nurs.* **2008**, *17*, 1088–1098. [[CrossRef](#)]

144. Haylock, P.J. Living to the end: Merging holistic and evidence-based strategies to meet the needs of people living with advanced cancer. *Oncology* **2009**, *23*.
145. Haylock, P.J. Advanced Cancer: Emergence of a New Survivor Population. *Semin. Oncol. Nurs.* **2010**, *26*, 144–150. [[CrossRef](#)]
146. Lange, M.; Laviec, H.; Castel, H.; Heutte, N.; Leconte, A.; Léger, I.; Giffard, B.; Capel, A.; Dubois, M.; Clarisse, B.; et al. Impact of new generation hormone-therapy on cognitive function in elderly patients treated for a metastatic prostate cancer: Cog-Pro trial protocol. *BMC Cancer* **2017**, *17*, 1–8. [[CrossRef](#)]
147. Lundquist, D. The Experience of Young Women Living with Advanced Breast Cancer: A Hermeneutic Phenomenological Study. Ph.D. Thesis, Boston College, Newton, MA, USA, 2018.
148. Mann, T.K. Investigating Cognitive/Affective/Sleep Disturbance Symptoms in Patients Receiving High-Dose Interleukin-2 Therapy. Ph.D. Thesis, Duke University, Durham, NC, USA, 2018.
149. Marshall, V.K.; Lehto, R.H.; Given, C.W.; Given, B.A.; Sikorskii, A. Conceptualisation of medication beliefs among patients with advanced cancer receiving oral oncolytic agents using a theory derivation approach. *Eur. J. Cancer Care* **2019**, *28*, e12988. [[CrossRef](#)]
150. McFarland, D.C. Putting the “Person” in Personalized Cancer Medicine: A Systematic Review of Psychological Aspects of Targeted Therapy. *Pers. Med. Oncol.* **2014**, *3*, 438–447. [[PubMed](#)]
151. Mercadante, S.; Vitrano, V.; Catania, V. Sexual issues in early and late stage cancer: A review. *Support. Care Cancer* **2010**, *18*, 659–665. [[CrossRef](#)] [[PubMed](#)]
152. Nottelmann, L.; Groenvold, M.; Vejlggaard, T.B.; Petersen, M.A.; Jensen, L.H. A parallel-group randomized clinical trial of individually tailored, multidisciplinary, palliative rehabilitation for patients with newly diagnosed advanced cancer: The Pal-Rehab study protocol. *BMC Cancer* **2017**, *17*, 1–10. [[CrossRef](#)] [[PubMed](#)]
153. Payne, H.; Pearcy, R. Symptoms and health-related quality of life in castration-resistant prostate cancer: The patient’s perspective. *J. Men’s Health* **2012**, *9*, 9–16. [[CrossRef](#)]
154. Payne, S. Living with Advanced Cancer. In *Handbook of Cancer Survivorship*; Springer: Boston, MA, USA, 2007; pp. 429–446.
155. Quek, R.; Morgan, J.A.; George, S.; Butrynski, J.E.; Polson, K.; Meyer, F.; Demetri, G.D.; Block, S.D. Small Molecule Tyrosine Kinase Inhibitor and Depression. *J. Clin. Oncol.* **2009**, *27*, 312–313. [[CrossRef](#)]
156. Soomers, V.; Desar, I.M.; Van De Poll-Franse, L.V.; Husson, O.; Van Der Graaf, W.T. Quality of life and experiences of sarcoma trajectories (the QUEST study): Protocol for an international observational cohort study on diagnostic pathways of sarcoma patients. *BMJ Open* **2020**, *10*, e039309. [[CrossRef](#)]
157. Uchida, M.; Akechi, T. Coping with Advanced Breast Cancer. *Curr. Breast Cancer Rep.* **2015**, *7*, 111–116. [[CrossRef](#)]
158. Younger, E.; Jones, R.L.; Desar, E.I.M.; Peckitt, C.; van der Graaf, A.W.T.; Husson, O. Health-related quality Of Life In patients with advanced Soft Tissue sarcomas treated with Chemotherapy (The HOLISTIC study): Protocol for an international observational cohort study. *BMJ Open* **2020**, *10*, e035171. [[CrossRef](#)]
159. Hillen, M.A.; Gutheil, C.M.; Strout, T.D.; Smets, E.M.; Han, P.K. Tolerance of uncertainty: Conceptual analysis, integrative model, and implications for healthcare. *Soc. Sci. Med.* **2017**, *180*, 62–75. [[CrossRef](#)]
160. Elliott, R. Person-centered/experiential psychotherapy for anxiety difficulties: Theory, research and practice. *Pers. Exp. Psychother.* **2013**, *12*, 16–32. [[CrossRef](#)]
161. Sharpe, L.; Michalowski, M.; Richmond, B.; Menzies, R.; Shaw, J. Fear of Progression in chronic illnesses other than cancer: A systematic review and meta-analysis of a transdiagnostic construct. *Health Psychol. Rev.* **2022**, 1–40. [[CrossRef](#)]
162. Balen, N.S.; Merluzzi, T.V. Hope, uncertainty, and control: A theoretical integration in the context of serious illness. *Patient Educ. Couns.* **2021**, *104*, 2622–2627. [[CrossRef](#)]
163. Herth, K. Fostering hope in terminally-ill people. *J. Adv. Nurs.* **1990**, *15*, 1250–1259. [[CrossRef](#)]
164. Heckhausen, J.; Schulz, R. A life-span theory of control. *Psychol. Rev.* **1995**, *102*, 284–304. [[CrossRef](#)]
165. Van Rooij, J.; Brom, L.; Soud, Y.E.; van de Poll-Franse, L.; Raijmakers, N.J. Social consequences of advanced cancer in patients and their informal caregivers: A qualitative study. *Support. Care Cancer* **2019**, *27*, 1187–1195. [[CrossRef](#)]
166. Sprangers, M.A.G.; Schwartz, C.E. Integrating response shift into health-related quality of life research: A theoretical model. *Soc. Sci. Med.* **1999**, *48*, 1507–1515. [[CrossRef](#)]
167. Sharpe, L.; Butow, P.; Smith, C.; McConnell, D.; Clarke, S. Changes in quality of life in patients with advanced cancer: Evidence of response shift and response restriction. *J. Psychosom. Res.* **2005**, *58*, 497–504. [[CrossRef](#)]
168. Kamal, A.H.; Gradison, M.; Maguire, J.; Taylor, D.; Abernethy, A.P. Quality Measures for Palliative Care in Patients with Cancer: A Systematic Review. *J. Oncol. Pract.* **2014**, *10*, 281–287. [[CrossRef](#)]