# Exploring the Multilevel Factors and Experiences to Palliative Care Referrals in Patients with Advanced Ovarian Cancer

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## Abstract

# Exploring the Multilevel Factors and Experiences to Palliative Care Referrals in Patients with Advanced Ovarian Cancer

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**Background.** Ovarian cancer presents significant challenges as patients experience high symptom burden and recurrence rates despite advancements in treatment. Integrating palliative care (PC) into the care of patients with advanced ovarian cancer remains critical yet underutilized. Through a scoping review and subsequent empiric research, this dissertation aimed to elucidate the multifaceted factors influencing PC referral practices and patients' lived experiences.

**Method 1.** The first part of the study was a scoping review which involved a comprehensive search across academic databases and journal archives from 2012 to 2023, targeting studies on advanced ovarian cancer and palliative care referral. Key terms such as 'palliative care' and 'ovarian cancer,' alongside additional terms were utilized for inclusivity. Disagreements were resolved through consensus using Rayyan and Covidence platforms, with data extraction employing a descriptive qualitative approach.

**Method 2.** This secondary data analysis investigated patient-reported symptoms, quality of life (QOL), and palliative care (PC) referral data in women with advanced ovarian cancer within the electronic Self-Assessment and Care (eSAC) study conducted at the Gynecologic Oncology clinic at the University of

Washington, Montlake campus, between September 2020 and February 2022. Data included demographic characteristics, pain intensity numerical score (PINS), and the EORTC Quality of Life Questionnaire Core 15 Palliative Care (QLQ-C15 PAL). PC referral recommendations were triggered based on specific symptom and quality of life scores. Statistical analyses, encompassing descriptive statistics and logistic regression models, explored associations between patient-reported outcomes (PROs), demographic characteristics, and the likelihood of having a PC referral order.

**Method 3.** This qualitative study examined the lived experiences of women with advanced ovarian cancer in integrating palliative care (PC) into their care using a phenomenological approach. Participants were recruited from the electronic Self-report Assessment and Care (eSAC) study at the University of Washington. Eligible participants had stage III/IV or recurrent ovarian cancer and had triggered a PC referral recommendation within the eSAC study. Telephone interviews were conducted, and data analysis followed Braun and Clarke's six-phase process, leading to a thematic understanding of their narratives.

**Results 1.** This scoping review analyzed 13 studies revealing socioecological factors impacting PC referrals across various socioecological levels. The findings emphasized the significance of patient-specific medical conditions, particularly in ovarian cancer cases. Also, the findings underscored the importance of a comprehensive assessment of physical and psychosocial symptoms to facilitate PC referrals.

**Results 2**. Fatigue and appetite loss were significantly greater in the group receiving a PC referral. Significant differential effects on the likelihood of PC referral across demographic subgroups were examined with several PROs. First, the likelihood of having a PC referral order with appetite loss was higher for participants in a relationship. Second, there was a significant interaction between educational status and insomnia, meaning insomnia had a different impact on the likelihood of having a PC referral order depending on the participants' educational status. Lastly, a significant interaction was observed between QoL score and participants' relationship status. Specifically, participants with better QoL and in a relationship status were less likely to have a PC referral order.

**Results 3.** Participants described diagnostic and treatment events unfolding rapidly. Misunderstandings about PC's role, often conflated with hospice care, hindered acceptance. Concerns about time constraints, care coordination, and symptom management also affected readiness to engage with PC services.

**Conclusion.** The findings of these studies emphasize the urgent need to revamp palliative care (PC) referral practices for advanced ovarian cancer patients. The results highlight the complex factors influencing PC referrals, stressing the importance of comprehensive symptom assessment and consideration of non-clinical determinants. As treatment options evolve, identifying reliable factors guiding PC referrals becomes crucial. A holistic approach is advocated to better understand patients' treatment trajectories and acknowledge the interplay of demographic factors in PRO presentation and associations with the likelihood of receiving a PC referral order. Despite some progress, patient acceptance of, and engagement with, PC remains lacking, necessitating improved communication strategies and interventions to clarify the role of PC. Collaborative efforts among stakeholders are essential for realizing patient-centered and integrated PC delivery within oncology settings.

# Dedication

To a healthcare system that guide patients and families toward achieving their goals of care, making each step of the way meaningful and impactful.

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# Chapter 1.

My nursing career started as a bedside nurse in an oncology unit, providing nursing care to lung and esophageal cancer patients. Later, I became a nurse practitioner in a subacute nursing facility where I cared for patients with various diagnoses. The majority of the patients had terminal diagnoses, including dementia, heart failure, chronic obstructive pulmonary disease, and cancer. As an advanced practitioner, my work focused on managing patients' acute and chronic issues mainly to assist them in regaining their medical condition well enough to return to their homes and communities. Among the various tasks, I was passionate about leading multidisciplinary meetings to minimize patients' hospital readmission and family meetings that mainly focused on advance care planning, emphasizing the patient and caregiver's care goals. However, I experienced a discrepancy between literature and practice where the patient's care was focused on cure rather than care despite the patient's progressive disease status and debilitating symptoms. I subsequently entered a nursing doctoral program where I could focus on the issue and start exploring the missing pieces of care transitions in patients with advanced diseases.

After all the doctoral coursework and numerous hours delving into the literature, I learned about the different research designs, methodologies, and methods that I can incorporate to answer my research question. Continuous curiosity about why healthcare is heavily focused on cures, with a lack of exploration of patient and caregiver needs, led me to seek more about the multiple factors intertwined in patients receiving timely palliative care (PC) and hospice care. By participating in a research practicum, I was exposed to a clinical site where I encountered women with advanced ovarian cancer. I have learned that ovarian cancer is the fifth leading cancer in U.S. women, with a reported five-year relative survival rate of 48%.[1] Patients with ovarian cancer are known to have a high symptom burden initially due to advanced-stage presentation that requires aggressive surgery and chemotherapy. The burden increases with the high recurrence rate and subsequent need for multiple lines of chemotherapy. Despite the improved survival rate attributable to advancements in surgical technology and the rapid development of various pharmaceutical therapies, patients with advanced ovarian cancer continue to report high symptom burdens that impact the patients' quality of life.[2] Widespread provision of comprehensive PC has gained evidence that supports the use in those diagnosed with advanced cancer. To gain better knowledge of the current practice of PC referral in patients with ovarian cancer, I conducted a scoping review (Chapter 2) that aimed to examine the multidimensional factors associated with PC referral practices, which led to a published article.[3]

The findings from the review necessitated a further exploration of the various factors in the decision-making process of a PC referral. In addition, I was provided with data showing how patients with advanced ovarian cancer refuse to integrate PC into their care. It was evident that extensive research on the factors, both measured quantitatively and qualitatively, was needed. Eventually, my dissertation proposal and research goals were set based on these needs. My goal was to apply multiple research methodologies and analyze the data to eventually provide a better understanding of the unique experiences of patients with advanced ovarian cancer and assist the clinicians in normalizing the PC referral practice.

My research focuses on PC services for patients with advanced ovarian cancer in an ambulatory care setting. Historically, PC services for patients with cancer have been introduced in an inpatient setting where resources typically are more concentrated than in an ambulatory care setting.[4,5] In an ambulatory care setting, it is more common to selectively refer patients who experience uncontrolled or high symptom burden or distress.[6] Yet, this process in practice is delayed by a lack of comprehensive understanding of a patient's needs and limited standardized symptom screening categories.[7] To fill in the gaps, a secondary data analysis was conducted to explore how data based on patient-reported outcomes (PRO) and demographic characteristics predict whether patients have a PC referral order. The electronically collected PRO in an oncology setting has been previously collected mainly for triaging patients' needs, and such interventions have led to positive outcomes, including improvement in communication,[8,9] symptom control,[10] quality of life, and survival.[11] For such reasons, PROs were deemed well-positioned to provide sustainable referral screening data. This secondary data analysis (Chapter 3) aimed to explore the PROs and its predictive values to one having a PC referral order along with different demographic characteristics.

Lastly, a qualitative study (Chapter 4) is included to provide an in-depth understanding of the patient's experiences integrating PC into their care. This portion of the dissertation facilitates the comprehensive understanding of a PC referral primarily from a patient's perspective. This qualitative study incorporated a phenomenological approach as it is well-positioned in understanding the lived body, time, space, and relationality.[12] Finally, the dissertation concludes by reflecting the overall findings and implications for future work (Chapter 5).

# References

1. Siegel RL, Miller KD, Wagle NS, Jemal A. Cancer statistics, 2023. *CA Cancer J Clin*. Jan 2023;73(1):17-48. doi:10.3322/caac.21763
2. Nho JH, Reul Kim S, Nam JH. Symptom clustering and quality of life in patients with ovarian cancer undergoing chemotherapy. *Eur J Oncol Nurs*. Oct 2017;30:8-14. doi:10.1016/j.ejon.2017.07.007
3. Cho S, Goff BA, Berry DL. Multilevel Determinants of Palliative Care Referral in Women With Advanced Ovarian Cancer: A Scoping Review. *Journal of Pain and Symptom Management*. 2023;
4. Heitner R, Rogers M, Meier D. Mapping Community Palliative Care: Results of a Three-Year National Study (S750). *Journal of Pain and Symptom Management*. 2020;59(2):557-558.
5. Morrison R, Meier D. America's care of serious illness. 2015 stat-by-state report card on access to palliative care in our nation's hospitals. center to advance palliative care, 2015. 2019.
6. Hui D, Mori M, Watanabe SM, et al. Referral criteria for outpatient specialty palliative cancer care: an international consensus. *The Lancet Oncology*. 2016-12-01 2016;17(12):e552-e559. doi:10.1016/s1470-2045(16)30577-0
7. Wentlandt K, Krzyzanowska MK, Swami N, Rodin GM, Le LW, Zimmermann C. Referral Practices of Oncologists to Specialized Palliative Care. *Journal of Clinical Oncology*. 2012-12-10 2012;30(35):4380-4386. doi:10.1200/jco.2012.44.0248
8. Berry DL. Patient-Reported Symptoms and Quality of Life Integrated into Clinical Cancer Care. *Seminars in Oncology Nursing*. 2011-08-01 2011;27(3):203-210. doi:10.1016/j.soncn.2011.04.005
9. Chen J, Ou L, Hollis SJ. A systematic review of the impact of routine collection of patient reported outcome measures on patients, providers and health organisations in an oncologic setting. *BMC Health Services Research*. 2013-12-01 2013;13(1):211. doi:10.1186/1472-6963-13-211
10. Berry DL, Hong F, Halpenny B, et al. Electronic Self-Report Assessment for Cancer and Self-Care Support: Results of a Multicenter Randomized Trial. *Journal of Clinical Oncology*. 2014-01-20 2014;32(3):199-205. doi:10.1200/jco.2013.48.6662
11. Basch E, Deal AM, Kris MG, et al. Symptom Monitoring With Patient-Reported Outcomes During Routine Cancer Treatment: A Randomized Controlled Trial. *Journal of Clinical Oncology*. 2016-02-20 2016;34(6):557-565. doi:10.1200/jco.2015.63.0830
12. Toombs SK. Illness and the paradigm of lived body. *Theor Med*. Jun 1988;9(2):201-26. doi:10.1007/BF00489413

# Chapter 2.

## Key Message

Women with advanced ovarian cancer have unmet PC needs that require exploration of the factors that impact PC referral processes. Identifying the multilayered factors of PC referral may help assess the increased needs of PC and maximize the benefits of integrating PC in an oncology setting.

## Background

Ovarian cancer is the 5th leading cancer in US women. It is characterized by a neoplasm derived from the ovaries, fallopian tubes, or primary peritoneum, most of which are high-grade serous tumors.[1] Epithelial ovarian cancer (EOC) comprises 90% of ovarian cancer, and at least two-thirds of patients present with stage III or IV disease.[2] Firstline therapy for advanced ovarian cancer includes treatment based on cytoreductive surgery followed by systemic chemotherapy.[2] Delayed diagnosis of ovarian cancer and high recurrence rates, an estimated 85% of the patients with EOC develop recurrent disease even after achieving full remission, require patients to receive multiple lines of chemotherapy and surgery.[3,4] Also, clinical findings have demonstrated that curative modalities in ovarian cancer often result in pain, fatigue, gastrointestinal effects, peripheral neuropathy[5], and psychosexual morbidity[6], affecting the quality of life (QoL) of the patients.

Receipt of palliative care (PC) earlier in the treatment course for patients with advanced cancer has been shown more beneficial than PC administered at the end stages.[7] Seminal randomized controlled studies revealed that early integration of PC services is associated with improved quality of life, mood, and survival.[7,8] Given these established benefits, the American Society of Clinical Oncology (ASCO) released guidelines suggesting consideration of referral to interdisciplinary PC consultation that provides inpatient and outpatient care early in the course of the disease, regardless of curative treatment.[9] Nonetheless, PC services for most women with advanced ovarian cancer are delayed until later, near the end of life.[10]

Various reasons have been documented for delayed or missed opportunities for PC referral in patients with advanced cancer. As reviewed by Hawley et al.[11], barriers to accessing PC services include the patient's own belief towards PC and their perspective towards transitioning to PC as meaning that the clinical team was giving up on their cancer treatment. Also, individual reasons for PC referral are known to be highly dependent on the factors related to the healthcare provider, such as a provider's ambivalence about disclosing a poor prognosis of a diagnosis.[12] Similarly, reluctance to discuss PC and existing assumptions that such discussion would upset the patient and their perspectives toward PC or a persisting conception of PC that is incompatible with cancer treatment are known factors impacting provider's PC referral practices.[11,13] In addition, external factors such as the availability of the resources in a particular health care setting, limited infrastructure for PC, and cost issues also could alter one's access to PC.[14]

Individual non-clinical factors also have been reported to impact PC referrals among women with ovarian cancer. An analysis of the US National Cancer Database of patients with metastatic (stage III-IV at-diagnosis) gynecologic cancer (n=176,899) demonstrated that PC use and residential proximity of available PC care was negatively related to ovarian or cervical cancer.[10] Also, the results demonstrated that patient-level utilization of the PC program depended on the type of institution the patient is treated and the patient's identified race and ethnicity. Among the type of treatment facility, the odds of being referred to PC care were the lowest in those treated in an academic/research program compared to a comprehensive community cancer program.[10] When stratified by race/ethnicity among all metastatic gynecological cancer patients, non-Hispanic White patients treated at academic/research programs were less likely to utilize PC care when compared to those treated at comprehensive community cancer programs. In contrast, Asian patients demonstrated higher odds of participating in PC care when treated in an academic/research program or an integrated network cancer program.[10]

Nevertheless, a paucity of literature provides a comprehensive view of the individual and contextual factors directly associated with PC referral and engagement in women with advanced ovarian cancer. Much of the literature has focused on analyzing EOL care (i.e., hospice enrollment) use or EOL care planning (e.g., completion of advance directives) with a limited overview of care transition to specialty PC with this population.[15-17] Here, specialist PC refers to care provided by individuals with specialized training and expertise which encompass the comprehensive supportive care provided to the patients with advanced illness in addition to the basic symptom management and communication delivered by non-palliative specialists.[18] Lack of such an overview can potentially limit clinicians' knowledge of factors to consider when identifying patients most likely to benefit from PC referrals and engagement.

In cases where a body of literature has yet to be comprehensively reviewed, a scoping review is particularly appropriate when identifying the research gap in the existing literature.[19] Therefore, this scoping review has been conducted to consolidate existing literature on the multiple factors associated with PC referrals, particularly in women with advanced ovarian cancer. By exploring and synthesizing the literature, we seek to address the contextual factors of PC referrals and support the clinical practice by optimizing advanced ovarian cancer treatment delivery and outcomes.

# Methods

## Conceptual Framework

Understanding socioecological determinants of access or use of PC referrals provides a foundation for this review. Bronfenbrenner's conceptualization of layers of an individual's socioecological environment and its critical attributes guide the association of behavior and its individual and the environmental determinants of access or use of PC referrals.[20] Bronfenbrenner demonstrated individuals being embedded within larger systems where multiple levels mutually interact and reinforce one another.[20] A socioecological model was selected to guide the review for its utility in conceptualizing the multilevel dimensions of PC referral practices.

## Search Strategy

This scoping review used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) guidelines.[21] A review protocol was not developed for this scoping review. A wide range of academic literature databases, including PubMed, Embase, CINAHL Complete, and PsycINFO, were searched. Using the key terms "palliative care" and "ovarian cancer" in Medical Subject Headings and texts, a preliminary search term was formatted (Table 1). The search was limited to studies that focused on women with advanced ovarian cancer, which meant that the study population had a clinical cancer of stage 3, 4, or recurrent. To reflect the advanced stage of the diagnosis, text keywords such as advanced, recurrent, relapsed, or resistant with an asterisk (e.g., advance*) were used so that it broadens the search. In addition, references from an individual publisher focused on gynecological oncology were scanned, given the specified population of interest. Several studies included in the search from the *Gynecology Oncology* archive were not found in the main database search despite the similar use of search terms. Actual keywords listed in the articles were reviewed. As a result, a few additional search terms (e.g., 'resist*' for resistant ovarian cancer) were used for all the database searches so that the search encompassed all relevant articles. Also, the literature search was limited to articles published from 2012 to 2023 to capture the information that is more relevant to the current PC referral practices and recommendations; for example, the suggested timing for PC referral has shifted from at the time of diagnosis to a patient with advanced cancer to facilitating PC involvement within eight weeks of diagnosis, which allowed a more realistic provision of PC.[9,22]

## Study Selection

Articles were included for a full-text review if they: (i) specifically included women with advanced ovarian cancer and (ii) reported demographic, medical/clinical, support, or system-level factors examined in referral practices to PC. For such, treatment guidelines solely focusing on treatment directed towards palliation (i.e., palliative surgery, palliative radiation) were excluded from the review due to the lack of relevance to the review purpose.

Finally, studies were excluded from this review if they (i) were not published in English; (ii) were not retrievable as full text. The process used for collecting, evaluating, and selecting the articles is illustrated in a flow diagram following the PRISMA recommendations for systematic reviews (Figure 1). Also, a thorough removal of duplicates was completed by applying a de-duplication method[23] using Endnote. The initial search yielded 348 studies, of which 260 were left after removing duplicates across databases. Based on the inclusion and exclusion criteria, the title and abstract of the studies were independently screened by two reviewers using Rayyan (www.rayyan.ai) and Covidence (www.covidence.org). Two hundred and thirty-nine studies were excluded based on screening titles, abstracts, and full text reviewed when necessary. The most common reason for article exclusion was the lack of relevance to referral practice to PC or no mention of the factors that could be explicitly considered in PC referral. However, despite the lack of primary focus on ovarian cancer, four additional studies that explored palliative care in women with gynecological malignancies were included for full-text review, given the close relevance to referral practice to PC. Additionally, an ancestry approach, a technique that involves reviewing the acquired studies to discover new studies that have not been explored, was used, and two met the study criteria.[24] Lastly, disagreements during the screening were resolved through further discussion between the two reviewers. The reviewers then went through a full-text review of the selected articles and reached 100% agreement on the final 13 articles.

### Data Extraction and Synthesis

A scoping review method allowed for content relevant to the research question to be combined and analyzed using a descriptive qualitative technique where data were coded into categories in alignment with the conceptual framework.[25] The first author read and reread the extracted data and independently converted it into units of meaning with a focus on socioecological factors impacting PC referrals and formed into categories using Atlas.ti Mac (Version 23.0.1). First, data extraction included article characteristics (e.g., author, year of publication, country), design, sample characteristics, and study objectives (Table 2). Then, additional key findings pertinent to the research question were extracted. Major data extraction categories included larger socioecological levels that consist of tumor, individual/intrapersonal, interpersonal, and environmental levels. Data extraction into each socioecological level yielded an overview of the factors relevant to the outcomes of interest (Table 3).

## Results

### Characteristics of the Included Studies

A final 13 articles met the criteria for inclusion in this review. Seven studies were retrospectively designed. All seven but two studies utilized electronic medical records, and the remaining two studies used a mix of survey and interview data. Studies that were not retrospectively designed (n=6) consisted of a review, an opinion paper, two guidelines, and a single-center randomized feasibility study. All the articles focused on the factors directly related to PC referral, though four of the 13 papers were review papers or a guideline recommending consideration of the factors covered.

## Factors by Level

### 1. Tumor-related Factors

### 1.1 Tumor Characteristics

Histopathology is essential to understand as it dictates the types of treatment that could be offered. Davidson and colleagues shared the top 10 tips that palliative care clinicians should know when caring for patients with ovarian cancer.[26] According to this review, the most common type of ovarian cancer, which is epithelial ovarian cancer, is classified into Type 1 and Type 2 depending on the histopathological and genetic differences, thus determining the prognostic differences. Type 1 cancers include low-grade serous, endometrioid tumors and clear cell and transitional cell histologies, which are often diagnosed in women younger in age at earlier stages with prolonged survival compared to Type 2 cancer.[26] In comparison, type 2 cancers include high-grade serous and endometrioid histologies. They are mostly diagnosed in late stages in an older population, with increased risk seen in patients with BRCA 1/2 mutations. The difference in histopathology discerns treatment methods such as focusing on surgical resection, shorter duration of chemotherapy and hormonal therapies for Type 1, and surgical debulking combined with aggressive chemotherapy for Type 2 cancers. Given the characteristics of the histopathological, genetic, and prognostic differences, this review recommends that patients with Type 1 cancer establish a long-term relationship with PC, and patients with Type 2 would benefit from an early referral to PC in order to be prepared prior to extensive surgical procedures or the initiation of systematic chemotherapy.[26]

Distinctive to advanced ovarian cancer, most patients develop recurrent disease despite the initial success with first-line surgery and chemotherapy. The risk of recurrence is the most prevalent in advanced stage disease.[27] Depending on the time to relapse from the end of first-line platinum-based chemotherapy, recurrent ovarian cancer is stratified into platinum-sensitive (more than or at six months) and platinum-resistant (less than six months), and this also will be a factor to consider when planning next steps.[27,28]

One study found a positive association between advanced cancer stage and PC referral with higher odds of PC referral seen with advanced stage (OR 1.7, p=0.02) while controlling for age.[29] Conversely, two studies demonstrated no differences in histology or staging between those with an early PC referral to their counterparts.[28,30]

## 2. Individual Factors

### 2.1 Age

The age difference is a factor to be explored, especially when women with advanced cancer require further treatment options in addition to or replacing cure-focused treatments. However, two studies stated that age was not associated with early PC referral to those without.[28,30]

### 2.2 Marital status

Non-clinical factors, such as marital status, were also evaluated as factors impacting the medical decision-making processes. One study reported timely consultation to PC (defined as exposure to inpatient PC more than 30 days prior to death) was observed more in married women than those who had late or no consultation to PC.[30]

### 2.3 Medical Condition

#### 2.3.1 Disease characteristics

A study by Nitecki et al.[29] reported that PC referrals were observed more in patients with recurrent or progressive disease when compared to patients in remission. Another study described that most patients with recurrent or progressive diseases develop platinum resistance and receive single-agent nonplatinum drugs, which at most guarantees less than one year of survival.[26] Hence, the mainstay of treatment for this population remains palliative, which is reflected in the PC referral patterns. Similarly, a study indicated progressive disease status and poor condition as common reasons for forgoing cure-focused treatment.[31] In addition to the disease progression, symptoms commonly experienced by women with ovarian cancer, such as fatigue, have been reviewed to be a trigger to PC referral.[32] The review also reported that symptoms, including bloating, abdominal pain, poor appetite, fatigue, nausea, and changes in bowel function, could significantly intensify in the last six months to a year approaching EOL.[32]

Similarly, another study demonstrated that most women referred to PC (73%) were seen for symptom management, which was shown in the significantly higher use of analgesics, antiemetics, medications for agitation, bowel regimen, and appetite stimulants compared to those not referred to PC.[33] The findings further emphasize the importance of symptom assessment unique to women with ovarian cancer and the consideration of supportive care for palliating symptoms.

### 2.3.2 Treatment profile

Clinical benefits and associated symptoms with ovarian cancer treatment are highly individualized, but like most advanced cancer diagnoses, the treatment profile highly dictates it. Given the variability in approach to care in women with ovarian cancer, the reviewed studies have reported different trigger points to PC referral with ovarian cancer treatments. According to Davidson et al.[26], chemotherapy regimens for recurrence in women with ovarian cancer might involve continuous treatments until the disease progresses or unacceptable toxicities occur, such as painful neuropathy or significant marrow suppression. In ovarian cancer patients receiving intraperitoneal (IP) chemotherapy, a higher prevalence of grade 3 or 4 fatigue, abdominal pain, and gastrointestinal, hematologic, metabolic, and neurologic events are observed than those who receive standard intravenous chemotherapy.[26] Thus, PC referral is suggested for symptom management and QOL considerations, given the nature of IP chemotherapy and its aggressive treatment consequences.[26]

For ovarian cancer diagnosed at a later stage and mainly involving high-grade serous and endometrioid histologies, surgical debulking is required to resect lesions adjacent to the original cancer and minimize residual disease for prolonged survival.[26] However, the authors of this study iterate the extensiveness of such surgeries, which might entail partial resection of adjacent organs, including the bowel, spleen, and liver, if they are affected by the malignant tumor. As a result, patients might experience negative complications and lingering sequelae (e.g., higher infection risk post splenectomy) and might soon require PC integrated into the care plan.[26] Another study reported that women with known poor prognoses, including those who never received surgical cytoreduction, who underwent an interval cytoreduction, or those with platinum-resistant and refractory disease, had earlier referrals to PC, and most of them were mainly seen for symptom management.[29]

Also, the use of medical treatment before consideration of PC varied. A single institution study in the United States reported that patients receiving PC referral within eight weeks of diagnosis of platinum resistance were more likely to have undergone none or one line of platinum-resistant chemotherapy, while the majority of the patients not participating in early PC referral received two or more lines of chemotherapy.[28] Another study reported that women referred to PC had a median of two lines of chemotherapy prior to being referred.[29] According to Fauci et al.[34], the rate of having undergone treatment with both chemotherapy and radiation in the last six months of life was significantly higher in those who were enrolled in hospice or PC than those who were not. These findings indicate that symptom burden caused by disease progression or treatment toxicities should be assessed as a factor in PC initiation regardless of prior use of medical treatment.

### 2.4 Performance status

Performance status is described as an indicator of how patients function daily and reflects the tumor stage and how the tumor impacts one's life. One study reported that patients with poor performance status, measured with the Eastern Cooperative Oncology Group (ECOG) performance scale, were more likely to be involved with PC.[28] However, a study conducted in India reported that of the women with gynecological malignancy referred to outpatient PC, over half had good to fair performance status (ECOG 0-2), countering the fact that most of the patients with higher symptom burden and low performance status were referred to PC.[31] These results imply that performance status needs to be combined with additional factors impacting referral to PC in women with advanced ovarian cancer.

### 2.5 Psychosocial status

A randomized controlled pilot study by Cusimano et al.[35] measured the patients' reported outcomes, such as QOL, and found that the patients had heightened physical and emotional symptoms despite a high performance status. Among the participants included in the study, over half had depression scores of 16 and higher on the Center for Epidemiologic Studies Depression Scale (score range 0-22, higher score being more depressed), requiring further clinical evaluation. However, due to the high-performance status, primary oncologists failed to recognize the immediate need for PC, eventually delaying timely referral to PC.[35] Another study described how patients receiving IP chemotherapy experienced psychological difficulties such as ambiguities with care, especially with the increased possibility of recurrence.[36] Patient experiences included maintaining "positive attitudes" and "living life fully" regardless of the known prognosis of their diagnosis.[36]

In a mixed methods study of barriers to PC, most participants stated lack of need for PC in their care despite the symptoms that they experience.[37] Participants, women with advanced ovarian cancer, were adamant that symptoms could be taken care of on their own without receiving additional help from the care team. This qualitative report was also reflected in the survey results, where physical well-being was lower than the general population, but the self-efficacy for managing symptoms was relatively high.[37] Overall, the findings report the heightened psychosocial challenges and coping strategies used by women with ovarian cancer, which should be considered to minimize missed opportunities for PC referral and better coordinate psychosocial support needs.

## 3. Interpersonal Factors

### 3.1 Support system

Given the increased symptom burden that patients with advanced ovarian cancer experience and considering its negative impact on their QOL, caregivers inevitably experience the burden and the impact on their own QOL.[32] Patients and their families will request to talk to the healthcare provider or vice versa when a PC referral is required. When failing to involve the patient's caregiver in such discussions, there is a higher possibility of patients receiving aggressive EOL care and, ultimately, challenging bereavement adjustment.[32] Similarly, assessing the patient's support system is critical, given the level of care that could be provided with an established support network. One study reported that lack of social support, such as obligations related to employment and other family commitments, resulted in patients receiving IP chemotherapy to seek medical care at times when there is fewer hospital support staff, such as social workers, chaplains, and physical therapists, to list a few.[36] In addition, one study reported that about half of the interview participants from a mixed methods study mentioned their surroundings as sources that triggered them to explore and seek PC services and assisted them in obtaining tangible resources (e.g., transportation) that led them to PC referrals.[37]

### 3.2 Provider

In practice, the provider often initiates discussions regarding the need for PC referral. Studies have consistently shown positive links between the provider's role of recommending and discussing treatment options and the patient's hospice enrollment, which further emphasizes the role of a healthcare provider in such decisions. One study reported that a PC referral was associated with a documented code discussion within 30 days of death in patients with ovarian cancer, highlighting the need for good patient-to-provider communication of goals of care.[29] Another study added that patients with advanced ovarian cancer regarded PC referral as dependent on the provider's introduction to PC and, if not, regarded it as unnecessary.[37]

## 5. Environmental Factors

### 5.1 Infrastructure

#### 5.1.1 Resource accessibility

Limited accessibility of PC is one of the barriers to timely PC referral. One study demonstrated a 1-year overall survival benefit in those who had an initial PC consultation as an outpatient compared to those who underwent inpatient consultation.[29] Though the authors suggested that the finding is due to a selection bias of more acutely ill patients seen in the hospital, it is still plausible that differences in the environmental factors impact patients' symptom control and maximize QOL with adequate access to resources.[29] According to Vanderpuye and colleagues[27], regardless of the initial success with first-line treatment, palliative care in a resource-limited setting is recommended given the high possibility of recurrence in patients with ovarian cancer, especially with advanced and high-grade or clear cell disease. In other words, the setting of the healthcare system in which the patient is being treated should be a factor to consider when considering treatments, such as target therapies, including antiangiogenic agents of poly-ADP ribose polymerase inhibitors (PARPi), because the anticipated outcomes might require various resources and can be financially costly.[27] In addition, two review papers suggested that surgical treatments and the capability of a healthcare institution with necessary specialists (i.e., gynecologic oncologist) should be considered as environmental factors since this could impact one's prognosis, which could further extend to a referral to PC.[26] Overall, the reviewed studies recommended that factors for PC referral should include recognizing a patient's geological or social limitations.

One other accessibility issue with PC referral was lack of care coordination and therefore causing patients to become overwhelmed with medical appointments.[37] Several interview data from Conley et al.[37] described how additional specialty palliative care referrals provided patients with the additional burden of already existing medical appointments.

### 5.1.2 Perception of palliative care

One study pointed out and described misconceptions and confusion around the meaning of palliative care due to the lack of PC referrals.[38] Limited understanding, such as equating PC with the provider "giving up" on the patients or having unclear knowledge of the difference between PC, resulted in late referral.[38] Interestingly, one study reported that patients' attitudes towards PC, measured with the 9-item Palliative Care Attitudes Scale (PCAS-9), indicated that patients with advanced ovarian cancer were skeptical towards PC services.[37] Nonetheless, despite the average scores on emotional (e.g., fear of PC) and cognitive (e.g., perceptions of benefits of PC) subscales, the behavioral subscale was higher, implying patients' willingness to accept PC referrals.[37] This study also reported how cost and insurance coverage could be a potential barrier to PC referrals, with most participants needing to learn that PC services could be covered with insurance depending on their insurance plans.[37]

## Discussion

This scoping review identified 13 studies reporting factors associated with PC referral practices. Of the factors identified, the medical condition unique to the patient with ovarian cancer was the most frequently examined, suggesting the need for a comprehensive assessment of physical and psychosocial symptoms for PC referral. Similarly, the international consensus regarding the criteria for PC referral of patients with advanced cancer prioritized severe physical and emotional symptoms.[39] In addition to the increased need for standardized physical and emotional symptom criteria in PC referral, the findings of this study highlight the consideration of the treatment profile and patient symptom burden that might be unique to patients with ovarian cancer. The result is especially pertinent to women with recurrent ovarian cancer as the treatment profile directly relates to their overall prognosis.

To obtain a comprehensive understanding of the factors considered in PC referral, this scoping review is the first to use a rigorous approach based on the socioecological model. Bronfenbrenner's ecological framework[20] emphasized that intrapersonal factors constantly require mutual accommodation with the interpersonal and environmental factors to be understood as a whole. For instance, in understanding the decision for a PC referral in women with advanced ovarian cancer can be multifactorial. The patient's medical condition is often a combination of factors in the tumor level that is impacted by various individual factors, such as one's social status (i.e., marital status). The factors are then assessed by the provider, who is included at the interpersonal level, which constantly communicates with the environmental factors such as the consideration of the available resources related to the treatment profile of the patient or the availability of services in the community in order to reach a final PC referral decision.

Though there is a constant effort to structurally organize the PC referral criteria and reach a consensus around it for timely PC referral and benefit maximization (i.e., QOL), there is little consideration of the various non-clinical criteria (e.g., socio-demographic and environmental factors). For instance, despite the known disparities with hospice use among racial and ethnic minorities, such as higher odds of dying without hospice in non-white patients compared to their counterparts, none of the included studies specifically explored race and ethnicity and its association with PC referrals in women with advanced ovarian cancer.[17] The lack of a comprehensive understanding of the socioecological factors around PC referral and use poses a challenge for providers when discerning individual information needs of women with ovarian cancer and involving them in the decision-making process. Therefore, future investigators should make an effort to establish whether considering multiple socioecological factors could help reduce the variability in PC referrals.

This scoping review has some limitations. Despite a comprehensive database search, a majority of the studies were excluded given the lack of focus on direct PC referral practices. Instead, a number of studies focused on exploring the factors associated with EOL care use (e.g., hospice enrollment). Knowing that some relationship between PC and EOL care use are supported by existing literature, future study designs should aim to strengthen the understanding of the multidimensional factors that could lead to both PC referral and EOL care planning.[29,32] Also, only a few of the studies included in this review were prospective, limiting data collection that capture real-time connection among the patient, provider, and environment and how those divergent factors generate treatment decisions. Further, there was no inclusion of PC referral experiences from the perspective of the patient. Lastly, exploring cultural differences is limited due to not including studies published in languages other than English.

As Paiva et al.[40] reviewed, treatment decision-making is a complex process where potential benefits, clinical conditions, and risks are weighed and combined with the patient's desires, values, preferences, and beliefs. This process is driven mainly by the provider and their treatment recommendations, leading to a treatment decision.[40] As such, a patient's decision to PC referral could heavily rely on the healthcare provider's ability to consider and neglect comprehensive factors included at the socioecological level, and failure to recognize the multilevel factors will result in increased rates of aggressive care at the EOL that often do not align with the patient's care goals. Therefore, it is pertinent for providers to understand the interconnectedness of the factors in PC referral decisions in addition to the previously emphasized clinicopathologic factors.

## Conclusion

We conducted a scoping review to provide evidence regarding the factors involved in PC referral for patients with advanced ovarian cancer. The reviewed articles indicated a heightened need of comprehensive assessment of symptom and symptom burden in women with advanced ovarian cancer along with various other non-clinical factors that could impact PC referrals. Especially, as novel treatments and therapeutic options emerge, there is an increased need to identify relevant and reproducible factors to make adequate decisions for PC referral. Also, there is a need to acknowledge the limitations of clinicopathologic backgrounds in decision-making regarding PC referrals. Therefore, future study methods should take PC referral experiences from the perspective of the patient into account. These steps would be critical as shared decision-making becomes more important in goals-of-care decisions.

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## References

1. Siegel RL, Miller KD, Wagle NS, Jemal A. Cancer statistics, 2023. *CA Cancer J Clin*. Jan 2023;73(1):17-48. doi:10.3322/caac.21763
2. Berek JS, Renz M, Kehoe S, Kumar L, Friedlander M. Cancer of the ovary, fallopian tube, and peritoneum: 2021 update. *Int J Gynaecol Obstet*. Oct 2021;155 Suppl 1(Suppl 1):61-85. doi:10.1002/ijgo.13878
3. Jayson GC, Kohn EC, Kitchener HC, Ledermann JA. Ovarian cancer. *The Lancet*. 2014-10-01 2014;384(9951):1376-1388. doi:10.1016/s0140-6736(13)62146-7
4. Corrado G, Salutari V, Palluzzi E, Distefano MG, Scambia G, Ferrandina G. Optimizing treatment in recurrent epithelial ovarian cancer. *Expert Rev Anticancer Ther*. Dec 2017;17(12):1147-1158. doi:10.1080/14737140.2017.1398088
5. Lee YC, King MT, O'Connell RL, et al. Symptom burden and quality of life with chemotherapy for recurrent ovarian cancer: the Gynecologic Cancer InterGroup-Symptom Benefit Study. *Int J Gynecol Cancer*. Jun 6 2022;32(6):761-768. doi:10.1136/ijgc-2021-003142
6. Logue CA, Pugh J, Jayson G. Psychosexual morbidity in women with ovarian cancer. *Int J Gynecol Cancer*. Dec 2020;30(12):1983-1989. doi:10.1136/ijgc-2020-002001
7. Temel JS, Greer JA, Muzikansky A, et al. Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer. *New England Journal of Medicine*. 2010-08-19 2010;363(8):733-742. doi:10.1056/nejmoa1000678
8. Bakitas M, Lyons KD, Hegel MT, et al. Effects of a Palliative Care Intervention on Clinical Outcomes in Patients With Advanced Cancer. *JAMA*. 2009-08-19 2009;302(7):741. doi:10.1001/jama.2009.1198
9. Ferrell BR, Temel JS, Temin S, et al. Integration of Palliative Care Into Standard Oncology Care: American Society of Clinical Oncology Clinical Practice Guideline Update. *Journal of Clinical Oncology*. 2017-01-01 2017;35(1):96-112. doi:10.1200/jco.2016.70.1474
10. Islam JY, Saraiya V, Previs RA, Akinyemiju T. Health Care Access Measures and Palliative Care Use by Race/Ethnicity among Metastatic Gynecological Cancer Patients in the United States. *International Journal of Environmental Research and Public Health*. 2021;18(11):6040. doi:10.3390/ijerph18116040
11. Hawley P. Barriers to Access to Palliative Care. *Palliat Care*. 2017;10:1178224216688887. doi:10.1177/1178224216688887
12. Bennardi M, Diviani N, Gamondi C, et al. Palliative care utilization in oncology and hemato-oncology: a systematic review of cognitive barriers and facilitators from the perspective of healthcare professionals, adult patients, and their families. *BMC Palliat Care*. Apr 13 2020;19(1):47. doi:10.1186/s12904-020-00556-7
13. Schenker Y, Crowley-Matoka M, Dohan D, et al. Oncologist factors that influence referrals to subspecialty palliative care clinics. *Journal of oncology practice*. 2014;10(2):e37-e44. doi:10.1200/JOP.2013.001130
14. Donkor A, Luckett T, Aranda S, Phillips J. Barriers and facilitators to implementation of cancer treatment and palliative care strategies in low- and middle-income countries: systematic review. *Int J Public Health*. Dec 2018;63(9):1047-1057. doi:10.1007/s00038-018-1142-2

15. Wright AA, Hatfield LA, Earle CC, Keating NL. End-of-Life Care for Older Patients With Ovarian Cancer Is Intensive Despite High Rates of Hospice Use. *Journal of Clinical Oncology*. 2014-11-01 2014;32(31):3534-3539. doi:10.1200/jco.2014.55.5383

16. Brown AJ, Sun CC, Prescott LS, Taylor JS, Ramondetta LM, Bodurka DC. Missed opportunities: Patterns of medical care and hospice utilization among ovarian cancer patients. *Gynecol Oncol*. Nov 2014;135(2):244-8. doi:10.1016/j.ygyno.2014.08.039

17. Taylor JS, Brown AJ, Prescott LS, Sun CC, Ramondetta LM, Bodurka DC. Dying well: How equal is end of life care among gynecologic oncology patients? *Gynecol Oncol*. Feb 2016;140(2):295-300. doi:10.1016/j.ygyno.2015.12.012

18. Von Gunten CF. Secondary and Tertiary Palliative Care in US Hospitals. *JAMA*. 2002;287(7):875. doi:10.1001/jama.287.7.875

19. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International journal of social research methodology*. 2005;8(1):19-32.

20. Bronfenbrenner U. *The ecology of human development : experiments by nature and design*. Cambridge, Mass. : Harvard University Press; 1979.

21. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. Oct 2 2018;169(7):467-473. doi:10.7326/M18-0850

22. Smith TJ, Temin S, Alesi ER, et al. American Society of Clinical Oncology Provisional Clinical Opinion: The Integration of Palliative Care Into Standard Oncology Care. *Journal of Clinical Oncology*. 2012-03-10 2012;30(8):880-887. doi:10.1200/jco.2011.38.5161

23. Bramer WM, Giustini D, de Jonge GB, Holland L, Bekhuis T. De-duplication of database search results for systematic reviews in EndNote. *Journal of the Medical Library Association: JMLA*. 2016;104(3):240.

24. Cooper H. *Research Synthesis and Meta-Analysis: A Step-by-Step Approach*. Fifth Edition ed. 2017. Accessed 2023/07/15. https://methods.sagepub.com/book/research-synthesis-and-meta-analysis-5e

25. Peters MDJ, Marnie C, Tricco AC, et al. Updated methodological guidance for the conduct of scoping reviews. *JBI Evid Implement*. Mar 2021;19(1):3-10. doi:10.1097/XEB.0000000000000277

26. Davidson BA, Moss HA, Kamal AH. Top 10 Tips Palliative Care Clinicians Should Know When Caring for Patients with Ovarian Cancer. *J Palliat Med*. Feb 2018;21(2):250-254. doi:10.1089/jpm.2017.0679

27. Vanderpuye VD, Clemenceau JRV, Temin S, et al. Assessment of Adult Women With Ovarian Masses and Treatment of Epithelial Ovarian Cancer: ASCO Resource-Stratified Guideline. *JCO Glob Oncol*. Jun 2021;7:1032-1066. doi:10.1200/go.21.00085

28. Haag JG, Adler AD, Sheeder J, Brubaker LW, Lefkowits C. Patterns of palliative care referral in platinum resistant ovarian cancer demonstrate reactive rather than proactive approach. *Gynecol Oncol Rep*. Oct 2022;43:101053. doi:10.1016/j.gore.2022.101053

29. Nitecki R, Diver EJ, Kamdar MM, et al. Patterns of palliative care referral in ovarian cancer: A single institution 5 year retrospective analysis. *Gynecologic Oncology*. 2018-03-01 2018;148(3):521-526. doi:10.1016/j.ygyno.2018.01.018

30. Nevadunsky NS, Gordon S, Spoozak L, et al. The role and timing of palliative medicine consultation for women with gynecologic malignancies: Association with end of life

interventions and direct hospital costs. *Gynecologic Oncology*. 2014-01-01 2014;132(1):3-7. doi:10.1016/j.ygyno.2013.10.025

31. Atreya S. Referral Patterns of Gynecological Cancer Patients to a Palliative Medicine Unit: A 2 Years Retrospective Analysis. *Indian J Palliat Care*. Oct-Dec 2017;23(4):409-412. doi:10.4103/ijpc.Ijpc_77_17

32. Miller D, Nevadunsky N. Palliative Care and Symptom Management for Women with Advanced Ovarian Cancer. *Hematol Oncol Clin North Am*. Dec 2018;32(6):1087-1102. doi:10.1016/j.hoc.2018.07.012

33. Tabuyo-Martin A, Torres-Morales A, Pitteloud MJ, et al. Palliative Medicine Referral and End-of-Life Interventions Among Racial and Ethnic Minority Patients With Advanced or Recurrent Gynecologic Cancer. *Cancer Control*. 2023;30:10732748231157191.

34. Fauci J, Schneider K, Walters C, et al. The utilization of palliative care in gynecologic oncology patients near the end of life. *Gynecol Oncol*. Oct 2012;127(1):175-9. doi:10.1016/j.ygyno.2012.06.025

35. Cusimano MC, Sajewycz K, Harle I, et al. Acceptability and Feasibility of Early Palliative Care Among Women with Advanced Epithelial Ovarian Cancer: A Randomized Controlled Pilot Study. *J Obstet Gynaecol Can*. Jun 2021;43(6):707-715. doi:10.1016/j.jogc.2021.03.005

36. Otis-Green S, Wakabayashi MT, Morgan R, et al. Palliative care opportunities for women with advanced ovarian cancer associated with intraperitoneal chemotherapy. *J Palliat Med*. Jan 2013;16(1):44-53. doi:10.1089/jpm.2012.0174

37. Conley CC, Buras AL, McIntyre M, et al. “It doesn’t really apply to what I’m going through”: a mixed-methods study of barriers to palliative care among patients with advanced ovarian cancer. *Supportive Care in Cancer*. 2023;31(7):397.

38. Duska LR. Early Integration of Palliative Care in the Care of Women with Advanced Epithelial Ovarian Cancer: The Time Is Now. *Front Oncol*. 2016;6:83. doi:10.3389/fonc.2016.00083

39. Hui D, Mori M, Watanabe SM, et al. Referral criteria for outpatient specialty palliative cancer care: an international consensus. *The Lancet Oncology*. 2016-12-01 2016;17(12):e552-e559. doi:10.1016/s1470-2045(16)30577-0

40. Paiva CE, Preto DD, de Lima C, Paiva BSR. To Treat or Not to Treat? Dilemmas when Deciding on Antineoplastic Treatment in Patients With Far Advanced Cancers. *Cancer Control*. Jan-Dec 2023;30:10732748231176639. doi:10.1177/10732748231176639

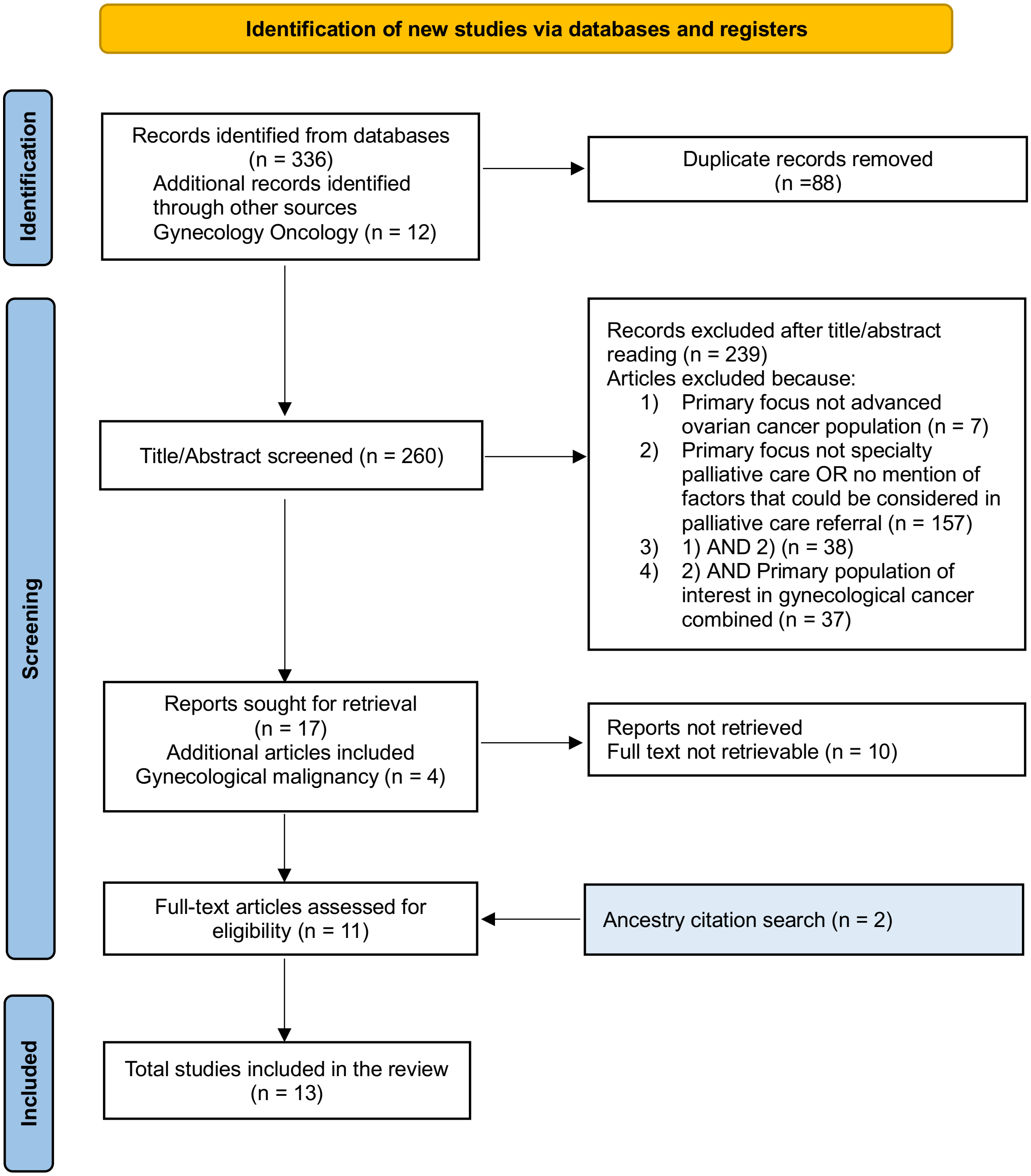

**Figure 1. PRISMA Flowsheet and selection of articles for review.**

## Table 1. Search terms by database

| Database | Search terms |
|---|---|
| PubMed | ((“Ovarian Neoplasms”[MeSH[1]] OR ovarian cancer) AND (advanc* OR recurr* OR relaps* OR resist*)) AND (“Palliative Care”[MeSH] OR “Palliative Medicine”[MeSH] OR palliative care)) |
| Embase | (‘ovary cancer’/exp/mj[2] OR ‘ovarian cancer) AND (‘advanced cancer’/exp[3] OR ‘cancer recurrence’/exp OR ‘cancer resistance’/exp OR advance* OR recur* OR relapse* OR resist*) AND (‘palliative therapy’/exp/mj OR ‘palliative nursing’/exp) |
| CINAHL Complete | (((MM[4] “Ovarian Neoplasms+”) OR ovarian cancer) AND (advance* OR recur* OR relaps* OR resist*)) AND ((MM “Palliative Care”) OR (MM “Palliative Medicine”) OR (MM “Hospice and Palliative Nursing”) OR palliative care) |
| PsychInfo | S1 ((DE[5] “Ovaries”) AND (DE “Neoplasms”)) AND (advance* OR recurr* OR relaps* OR resist*)<br>S2 DE “Palliative Care”<br>S3 S1 AND S2 |

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[1] MeSH: Medical Subject Heading

[2] /exp/mj: Explosion and Major Focus

[3] /exp: Explosion

[4] MM: Extract Major Subject Heading

[5] DE: Subjects [exact]

### Table 2. Characteristics of Studies Included in the Review (N=13)

| Author, Year | Country | Design | Sample Characteristics | Study Objective |
|---|---|---|---|---|
| Cusimano et al., 2021 [35] | Canada | Pragmatic, single-center, 2-arm randomized feasibility study | Women histologically or cytologically confirmed epithelial ovarian cancer, with a diagnosis of either first recurrence or progression on first-line therapy, and who, if deemed necessary, had received next-line systemic therapy for no more than 30 days | To evaluate the acceptability of this intervention in patients with advanced ovarian cancer and determine the feasibility of future phase III trials by evaluating recruitment rates, adherence to early palliative care, and completion of patient self-reported measures. |
| Duska, 2016 [38] | United States | Opinion paper | | |
| Haag et al., 2022 [28] | United States | Retrospective medical record review | Women with ovarian, fallopian tube, and primary peritoneal cancer who received at least one course of chemotherapy or targeted therapy | To evaluate patterns of specialty palliative care integration in patients with platinum resistant ovarian cancer as a group appropriate for routine early palliative care referral per ASCO guidelines. |
| Miller et al., 2018 [32] | | Review | | To define palliative care and current standards in oncology regarding expectations for initiation of palliative care and benefits of early dissemination. |

| | | | | |
|---|---|---|---|---|
| Nitecki et al., 2018 [29] | United States | Retrospective chart review | Women diagnosed with ovarian cancer | To examine the outpatient and inpatient utilization of palliative care services, the indications for consultations, and the measurable clinical benefits of these interventions for women with ovarian cancer at a tertiary care medical center. |
| Otis-Green et al., 2013 [36] | United States | Mixed methods retrospective study | Women with advanced OC and having participated in a modified Armstrong protocol for IP chemotherapy during the last year, with a prognosis expected of greater than six months (as determined by the referring physician) | To describe the symptom burden and QOL impact of IP chemotherapy for women treated for advanced ovarian cancer and to identify palliative support opportunities. |
| Vanderpuye et al., 2021 [27] | United States | Resource-stratified guideline | Adult women with ovarian masses and other symptoms of ovarian cancer as well as those diagnosed with EOC at all stages in resource-constrained settings | To provide expert guidance to clinicians and policymakers in three resource-constrained settings on diagnosis and staging of adult women with ovarian masses and treatment of patients with epithelial ovarian (including fallopian tube and primary peritoneal) cancer. |
| Davidson et al., 2018 [26] | | Guideline | | To provide a concise, up-to-date prioritization of the most critical learning needs of busy palliative care clinicians. |

| | | | | |
|---|---|---|---|---|
| Fauci et al., 2012 [34] | United States | Retrospective chart review | Women with gynecologic oncology malignancy who died between 2007 and 2010 | To describe the trends in end-of-life care of gynecologic oncology patients at our institution, characterize the experience of our patients during their last six months of life and identify areas in need of improvement with regard to palliative care services. |
| Nevadunsky et al., 2014 [30] | United States | Retrospective chart review | Women who were treated during the last year at a single institution and died from their primary gynecologic malignancy | To retrospectively evaluate the impact of palliative medicine consultation on cost and quality of end-of-life care as measured by aggressive care interventions at the end of life for women with gynecologic malignancies. |
| Atreya, 2017 [31] | India | Retrospective chart review | Women with gynecological malignancies referred to palliative care | To assess the frequency of symptoms in gynecological malignancies presenting to the palliative medicine clinic. |
| Tabuyo-Martin et al., 2023 [33] | United States | Retrospective chart review | Women diagnosed with advanced gynecological malignancies | To evaluate patterns of referral to palliative medicine and to assess differences in end-of-life interventions among women with gynecologic cancers by race in a diverse patient population. If such differences exist, they may inform interventions for care optimization and elimination of structural barriers. |
| Conley et al., 2023 [37] | United States | Sequential mixed-methods study | Women diagnosed with advanced ovarian cancer (qualitative) and had not previously received palliative care services (quantitative) | To explore barriers to palliative care in patients with advanced ovarian cancer. |

## Table 3. Factors identified by socioecological level with outcomes in the 13 publications

| Socioecological Level[1] | Factor | Influence on palliative care referral |
|---|---|---|
| Tumor level | Histopathology and Staging | • Different histopathology requires different approaches to PC referral [26]<br>• A higher proportion of patients referred to outpatient PC were stage 3 and 4 [31]<br>• A higher stage ovarian cancer is associated with higher PC referrals [29]<br>• No difference [28,30] |
| Individual level | Age | • No association [26,30] |
| | Marital Status | • Timely consultation with PC is more likely to occur in married women [30] |
| | Disease Characteristics | • Higher PC referral in patients with recurrent or progressive ovarian cancer [29]<br>• PC referral is mainly for pain management and progressive disease status [31] |
| | Treatment Profile | • Higher PC referral in patients who. have undergone both chemotherapy and radiation in the last six months of life [34]<br>• Earlier PC referrals for symptom management with those who never received surgical cytoreduction, underwent an interval cytoreduction, or those with platinum resistant and refractory disease [29]<br>• PC referral is recommended for patients receiving IP chemotherapy, given their tendency to experience grades 3 or 4 fatigue, abdominal pain, and gastrointestinal, hematologic, metabolic, and neurologic events [26]<br>• Higher use of analgesics, antiemetics, medications for agitation, bowel regimen, and appetite stimulants in women referred to PC compared to those not [33] |

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[1] Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard university press.

| | | |
|---|---|---|
| | | • High self-efficacy of symptom management in women with advanced ovarian cancer [37]<br>• Surgery following advanced stage ovarian cancer diagnosis could result in negative complications mainly due to the extensiveness of the surgery, which might require PC integrated into care [26]<br>• Varying amounts of chemotherapy received prior to PC referral [28,29] |
| | Performance Status | • Poor performance status (low ECOG) is more likely to be involved with PC [28]<br>• A higher proportion of patients with good to fair performance status (ECOG 0-2) were referred to outpatient PC [31] |
| | Psychosocial Status | • Delayed PC referral due to masked emotional symptoms [35]<br>• Increased ambiguity with care with patients receiving IP chemotherapy due to the increased possibility of recurrence [36]<br>• Self-efficacy in symptom management remains high and tends to deny the need for a PC despite the low physical well-being [37] |
| Interpersonal | Support System | • Obligations related to employment and other family commitments resulted in patients receiving treatment at the time with limited medical services [36]<br>• People in the support network trigger women with ovarian cancer to explore and seek PC services and provide tangible resources that lead to PC referrals [37] |
| | Provider | • A positive association between a documented code discussion within 30 days of death and PC referral [29]<br>• Need for a PC referral dependent on the provider's decision and introduction [37] |
| Environmental | Infrastructure | • Limited understanding or unclear knowledge of the difference between PC and hospice resulted in late referral [38]<br>• Despite the increased fear of PC and perceptions of the benefits of PC being low, the willingness to accept PC referrals remained high [37]<br>• Existing perception of PC referral not being covered regardless of the differing insurance plans [37] |

# Chapter 3.

## Significance/Background

High-quality randomized control trials have supported the facilitation of early PC integration to therapeutic care in those newly diagnosed with advanced cancer by demonstrating a significant improvement in QOL, mood,[1-3] improved prognostic understanding,[4] and survival rates.[2,5] Recognizing the value of palliative care (PC), national and international health organizations, including the American Society of Clinical Oncology (ASCO), American Academy of Hospice and Palliative Medicine, and World Health Organization (WHO), have endorsed the need for early PC integration with concurrent oncology care.[6] However, actual consultation continues to occur late in the disease course despite the increasing number of PC services available at tertiary level cancer care centers.[7]

Known barriers to timely palliative care service referral are multifaceted. A 2018 study by Nitecki et al. have demonstrated that referral tends to occur late in the patient's care trajectory and is mostly reactionary to very poor prognosis or high symptom burden.[8] A 2021 study by Agne et al. described the barriers to PC referral from the provider's perspective and recognized additional healthcare time, burdening standard oncology care for patients with advanced cancer.[9] The investigators implied that successful PC referral requires the provider to overcome attitudinal barriers and logistical limitations in PC service delivery and the patient to be informed about PC options in advance.

To overcome the obstacles to timely referrals intended to prevent patients and families from suffering unnecessarily, authors have advocated for the use of triggers in the referral process.[10,11] A trigger is a set of criteria that initiates a recommended PC referral by communicating the criteria threshold to the provider and the patient. According to a review from Kistler and colleagues,[12] current published triggers have been tailored to specific settings such as intensive care units, emergency departments, or inpatient cancer units. However, few findings are available on how ambulatory care PC referrals are made in which it is particularly appropriate to facilitate early access to PC.[13]

In several studies focused on patients with gynecologic malignancies, the primary outcome of interest has been measuring aggressive care interventions that the patients receive at the end of life between those referred to PC and those who were not. Nevadunsky and colleagues retrospectively reviewed 100 consecutive patients who died from gynecologic malignancies and found timely PC consultation resulted in lower aggressive care interventions at the end of life which lowered direct hospital costs.[14] A similar study in 2018 examined the differences in outpatient and inpatient utilization of PC services and its associated clinical benefits, such as less acute care utilization at the end of life.[8] As one of the few studies that included PC referrals in an ambulatory care setting, this study demonstrated that symptom management was the primary reason for 58% of PC referrals and pain accounted for the most common symptom. The study findings also suggested a 1-year overall survival benefit ($p<0.01$) in those who received their initial consultation in an ambulatory care setting.

Despite the benefits of early PC referrals in an ambulatory care setting, factors predicting PC referral and engagement with PC consultation are not widely documented. In contemporary gynecologic oncology practice, along with other oncology practices, focusing on symptom management based on patient care needs as entree to introducing PC has been widely accepted.[13,15] However, the associations between patient-reported symptoms and quality of life (QoL) issues and PC referral have not been well described. The lack of standardization of trigger items or tools limits broader use and warrants a more robust study. This study aimed to explore the relationships between real time patient reported outcomes, demographic variables and PC referral orders in patients with advanced ovarian cancer.

## Methods

### Study Design, Sample, and Setting

This study was a secondary data analysis of longitudinal patient-reported symptoms and QOL and PC referral data collected in women with advanced ovarian cancer. The parent study, the electronic Self-Assessment and Care (eSAC) was a non-randomized, pre-post design study that aimed to evaluate a unique clinical application of an efficacious self-report, self-care system for cancer symptoms and quality of life.[16] The larger study focused on the feasibility and acceptability of clinical implementation and comparisons of PC referral rates before and after eSAC implementation for the whole institutional population of women with advanced ovarian cancer. Patients with stage III/IV and recurrent ovarian cancer were seen for care and treatment at the Gynecologic Oncology clinic at the University of Washington, Montlake campus between September 2020 and February 2022 and offered the opportunity to participate in the eSAC program.

As part of the eSAC study, an automated query of appointment data in the medical record was performed each day. Registered participants were prompted to complete subsequent eSAC reports by automated email five days before each scheduled clinic visit. Participants were given access to an internet-based platform to self-assess symptoms and QOL and received teaching tips based on their reported outcomes. Measures within eSAC included a brief demographic survey, level of decisional control preference, a 0-10 pain intensity numerical scale (PINS), and the EORTC QLQ-C15-PAL.[17] PC referral orders and visits that occurred within the institution 18 months post-implementation were searched in the data warehouse and recorded for analysis.

## Measures

Demographic and baseline inquiries in the parent study included age, ethnicity, race, work status, education, marital status, household information, and preference in decision-making related to medical care.

### *Pain intensity numerical score (PINS)*

Participants were asked to rate their pain or discomfort score on a scale of 0 (no pain) to 10 (worst pain ever) by clicking one of the numbers that best described the pain they are experiencing at the time of making a report.

### *EORTC Quality of Life Questionnaire Core 15 Palliative Care (QLQ-C15 PAL)*

The data included repeated measures of the EORTC QLQ-C15 PAL that formed a total of 15 questions pertaining to their physical functioning, emotional functioning, as well as symptoms that advanced cancer patients most commonly experience (i.e., pain, nausea, and vomiting) and a question regarding overall QoL (global health status). This questionnaire has been recommended for use in patients with advanced, incurable, and symptomatic cancer and has been widely validated for its use in diverse cancer populations. Each item of the EORTC QLQ-C15-PAL has a 4-point response option from 1 (not at all) to 4 (very much), and overall QOL was rated using a scale ranging from 1 (very poor) to 7 (excellent). According to published scoring rules, all the multi-item scale and single-item measures were linearly transformed before use; the transformed scores ranged from 0 to 100.[17] Higher scores indicates better health-related QOL in the functional scales and the overall QOL scale and worse symptoms in the symptom scales.

The eSAC study system triggered a recommendation to both participants and providers for a PC referral based on any one or more of the following reported scores: 1) Pain Intensity Numerical Score (PINS) 7-10; 2) QLQ-C15-PAL item "have you had pain" (quite a bit or very much); 3) QLQ-C15-PAL item "did pain interfere with your daily activities" (quite a bit or very much); or 4) "quality of life" at "1-3" (low quality of life) out of 7. The participant's triggered symptom report, delivered on paper to the healthcare provider, included a statement in red font, "Based on the patient's reports, a palliative care referral is recommended." Participants with moderate-to-severe levels of outcome severity were prompted with a "pushed" teaching tip regarding the issue. The PC teaching tip included a brief introduction of what evidence-practice recommends regarding PC, a number that directly connects them to the PC service, and a short description of how the patient can communicate with their provider, initiating a discussion related to PC referral and services.

### Statistical Analysis

Descriptive statistics were applied to all demographic factors that were collected for the eSAC study to provide sample characteristics. In addition, baseline participant characteristics were compared using a Chi-squared analysis or a Fisher's exact test by PC referral order status. For the remaining statistical analysis, sample characteristics such as age, work status, education, and relationship status were selected. This decision was mainly due to the homogeneity of the sample and to avoid misrepresentation of small subgroups. Also, the included demographic factors were selected due to a well-balanced representation of both those with a PC referral order and those without. As a part of this process, the demographic subgroups were aggregated into binary groups (i.e., age 49 and younger/50 and older, not working or retired/working (full-time/part-time), single or separated/married or partnered, college degree or less/graduate degree.

Given the varying number of participant reports over time, individual mean scores were used for all patient-reported outcome (PRO) symptom and QoL items submitted. Exploratory analyses were conducted to explore the differential effect of pain, physical and emotional functioning, individual symptoms and QoL on PC referral orders by demographic groups. First, a t-test was used to compare mean PRO scores between those with a PC referral order to those without. Next, logistic regression models were structured to each include demographic variables only, PROs only, and altogether to assess and compare each of its associations with PC referral orders. Lastly, logistic regression models were generated to include each PROs (PINS, physical and emotional functioning, symptoms, and QoL) coupled with demographic factors with interaction terms. Interaction terms were included to mainly examine the differential effect of PROs on the likelihood of a PC referral order between each dichotomous demographic groups. Of note, each PRO was grouped and analyzed separately (e.g., PINS, physical/emotional functioning, symptoms, and QoL) due to multicollinearity reasons. The significance was set at $p < 0.05$. Statistical analyses were performed using R (version 4.1.1).

**Conceptual Framework**

The socioecological model from Bronfenbrenner was selected to guide the analysis for its utility into examining the socioecological components that lead to palliative care referral decisions, ensuring a comprehensive analysis of how various social, environmental, and individual factors influence these critical healthcare decisions. Furthermore, it facilitated the analysis of not only patient-reported outcomes but also the incorporation of other demographic factors in the dataset, allowing for a more holistic understanding of how diverse elements such as age, working status, educational status, and relationship status could predict a PC referral order.

## Results

One hundred and nineteen participants completed at least one report (range 1-45); three were censored due to missing PC referral data. Participant characteristics are presented in Table 1. Of the 116 participants, 23 (20%) received a provider order for a PC referral. There were no notable statistical differences in demographic characteristics between those who did and did not get a referral to PC. However, there were group differences for PROs, with those receiving PC referral having worse fatigue and greater appetite loss (Table 2).

***Table 1.*** *. Demographics and decision-related characteristics for participants (N=116)*

| | No PC referral (N=93) | PC referral (N=23) | p-value |
|---|---|---|---|
| | (N (%)) | | |
| Age groups (years) | | | 0.564 |
| 30-39 | 1 (1%) | 0 (0%) | |
| 40-49 | 8 (9%) | 3 (13%) | |
| 50-59 | 22 (23%) | 3 (13%) | |
| 60 or above | 62 (67%) | 17 (74%) | |
| Race | | | 0.5913 |
| Asian | 5 (6%) | 3 (14%) | |
| Black or African-American | 1 (1%) | 0 | |
| Native Hawaiian or other Pacific Islander | 1 (1%) | 0 | |
| White/Caucasian | 80 (92%) | 19 (86%) | |
| Ethnicity | | | 0.257 |
| Hispanic | 3 (1%) | 2 (1%) | |
| Non-Hispanic | 90 (1%) | 21 (1%) | |
| Education | | | 0.986 |
| 9-12th grade | 16 (18%) | 3 (14%) | |
| 2-year college | 11 (12%) | 3 (14%) | |
| 4-year college | 32 (36%) | 8 (36%) | |
| Graduate degree | 30 (34%) | 8 (36%) | |
| Employment | | | 0.527 |
| Working, but on medical leave | 6 (7%) | 0 | |
| Working full-time | 15 (17%) | 4 (17%) | |
| Not working | 15 (17%) | 6 (26%) | |
| Working part-time | 12 (13%) | 1 (4%) | |
| Retired | 43 (47%) | 12(52%) | |
| Marital status | | | 0.101 |
| Single | 27(29%) | 3 (13%) | |
| Married/Partnered | 64 (69%) | 18 (78%) | |
| Separated | 2 (2%) | 2 (9%) | |
| Children living in household | | | 0.999 |
| Yes | 24 (27%) | 6 (27%) | |
| No | 65 (73%) | 16 (73%) | |
| Control preference | | | 0.606 |
| Final decision myself | 16 (18%) | 6 (27%) | |
| Shared decision making | 70 (80%) | 16 (73%) | |
| Delegate decision | 2 (2%) | 0 | |
| Received PC trigger | | | 0.369 |
| Yes | 60 (64%) | 17 (74%) | |
| No | 33 (36%) | 6 (26%) | |

***Table 2***. *Patient-reported outcome by PC referral status (N=116)*

| | No PC referral mean (SD) | PC referral mean (SD) | $p$-value |
|---|---|---|---|
| PINS | 3.09 (1.65) | 3.41 (1.89) | 0.453 |
| Physical Functioning | 86.34 (14.54) | 78.62 (17.36) | 0.058 |
| Emotional Functioning | 79.44 (16.84) | 71.49 (25.93) | 0.173 |
| Symptoms | | | |
| Fatigue | 34.46 (19.74) | 47.18 (21.76) | 0.016** |
| Pain | 26.47 (18.44) | 30.29 (19.01) | 0.468 |
| Nausea/Vomiting | 15.69 (16.13) | 23.67 (23.12) | 0.073 |
| Dyspnea | 19.18 (18.51) | 20.63 (25.45) | 0.799 |
| Insomnia | 32.37 (17.63) | 30.40 (22.10)) | 0.694 |
| Appetite Loss | 14.98 (16.09) | 36.49 (28.14) | 0.001*** |
| Constipation | 17.53 (18.22) | 25.98 (18.78) | 0.063 |
| Quality of Life | 69.26 (14.73) | 62.29 (18.33) | 0.101 |
| *Note: SD = Standard deviation* | $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$ | | |

### Predicting PC referral orders

Appetite loss was the only symptom that significantly increased the odds of getting a PC referral order after adjusting for all demographic variables (OR= 1.044, 95% CI: 1.010, 1.084, see Table 3 for full results of the models). In examining the group differences, the likelihood of the participant with appetite loss having a PC referral order was dependent on the participant's relationship status ($p$ = 0.035) in that the participant group who were in a relationship had an increased likelihood of having a PC referral order. In addition, there was a significant interaction between one's educational status and insomnia ($p$ = 0.040). This meant that the insomnia symptom scores had a significant differential effect between the participants holding a college degree or less and those with a graduate degree on the likelihood of having a PC referral order. In other words, there was a higher odd in having a PC referral order in participants holding a graduate degree with worse insomnia. Lastly, there was a significant interaction ($p$ = 0.028) between the QoL score and the participant's relationship status. To be specific, there was a significantly lower likelihood of a PC referral order in participants with better QoL and in a relationship.

***Table 3**. Predicting the likelihood of a palliative care referral order*

| | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| | OR (95% CI) | | |
| Age (ref: age 49 and younger) | 1.878 (0.642, 6.400) | | 2.358 (0.615, 11.004) |
| Work (ref: Non-working) | 0.985 (0.198, 3.839) | | 2.075 (0.331, 11.550) |
| Education (ref: college degree and less) | 1.119 (0.395, 3.015) | | 0.758 (0.199, 2.589) |
| Relationship status (ref: single/separated) | 1.623 (0.566, 5.409) | | 0.707 (0.173, 3.033) |
| PINS | | 1.014 (0.600, 1.691) | 1.005 (0.560, 1.782) |
| Physical functioning | | 0.963 (0.909, 1.018) | 0.972 (0.912, 1.035) |
| Emotional functioning | | 0.987 (0.951, 1.023) | 0.982 (0.943, 1.020) |
| Fatigue | | 1.011 (0.964, 1.060) | 1.026 (0.974, 1.083) |
| Pain | | 0.975 (0.925, 1.027) | 0.963 (0.915, 1.024) |
| Nausea/Vomiting | | 1.021 (0.977, 1.066) | 1.026 (0.978, 1.077) |
| Dyspnea | | 0.972 (0.936, 1.006) | 0.963 (0.922, 1.001)* |
| Insomnia | | 0.970 (0.935, 1.005) | 0.968 (0.931, 1.004)* |
| Appetite loss | | 1.044 (1.011, 1.083)*** | 1.044 (1.010, 1.084)** |
| Constipation | | 1.019 (0.987, 1.051) | 1.017 (0.985, 1.050) |
| Quality of life | | 1.055 (0.951, 1.068) | 1.007 (0.948, 1.073) |

*Note: OR = Odds Ratio, CI = Confidence Interval*

$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

## Discussion

This analysis of women with recurrent ovarian cancer explored the PROs in association with the demographic factors and the likelihood of participants receiving a PC referral order. The results suggest how PROs could impact the likelihood of the participant having a PC referral order differently depending on different demographic characteristics. The results demonstrated a non-significant association with pain and the likelihood of one having a PC referral order. Though the likelihood of receiving a PC referral did change when comparing pain between different age groups, it was still non-significant. Although pain is well recognized as the most burdensome symptom in advanced ovarian cancer patients in general, pain alone was not a significant contributor to the patient having a PC referral.[8]

Among the different demographic variables, one of the significant interactions included the relationship status and QoL score, which indicated that the participant's relationship status was another component to consider when screening for QoL. According to a review by Dilworth et al.,[18] the most common barrier to providing psychosocial components of clinical care to adults with cancer from a patient perspective was that despite reporting distress, there was no perceived need for support or denied the need for additional support because they reported receiving support elsewhere. Though this was a review of studies that examined the varying factors of one seeking psychosocial care in an oncology setting, which might have a different approach to seeking PC services, it corroborates that symptom report alone is limited in its ability to identify a need for service.

Pain and symptom management is known to be highly prioritized by patients when nearing the end of life.[19] However, there is little data on the specific symptoms that factor into the decision-making for a PC referral in patients with ovarian cancer. Among the studies that reported on cancer patients' reasons for PC referral, Wadhwa and colleagues examined factors for early (> 12 months before death) and late (< 6 months before death) PC referrals.[20] The results demonstrated that worse symptom scores, measured using the Edmonton Symptom Assessment System, including "tiredness", "nausea", "drowsiness", "loss of appetite", and "overall wellbeing" were significantly observed in patients who received a late referral. Similarly, a study that reviewed 310 patients referred to the outpatient specialty palliative care service in Germany demonstrated that patients referred late (< 3 months before death) had significantly higher "loss of appetite" scores measured using the German Hospice and Palliative Care Evaluation Symptoms and Problem Checklist [21]. Though our study did not obtain any information regarding the timing of the PC referral relevant to death, the results aligned with the previous studies in that loss of appetite was identified as a significant factor to receiving a PC referral.

One interesting finding from examining different demographic groups and symptoms is that appetite loss increased the likelihood of PC referral in those in a relationship. According to a phenomenological study by Opsomer and colleagues[22], seven couples including a patient with advanced cancer experiencing nutrition-related problems (NRPs) and his/her cohabiting life partner were interviewed to explore what it meant to experience NRP in advanced cancer.[22] Various aspects ranging from physical, psychological and social meanings of NRPs were identified. The participants related the experience with death and therefore impacting one's ability to control NRP and issues extending to loss of social life with communication, couple life, and social activities being impacted. The results were also supported by a review by Hui-Lin and Ting [23] in which the reviewed studies indicated that eating problems in advanced cancer patients are recognized as a multifaceted issue that negatively impacts caregivers psychologically most of the time. Aligning with prior evidence, it does make sense that our results show a higher likelihood of PC referral order in participants who are in a relationship given the heightened awareness for additional care for both the patient and the caregiver.

Using physical symptom parameters as criteria when initiating PC referral in an ambulatory care setting has been supported by multiple studies.[21,24] As reviewed by Hui and his colleagues, physical symptoms were the most used referral criteria followed by cancer trajectory, prognosis, performance status, psychosocial distress, and end-of-life care planning.[25] Notably, our study was different from the current literature, not only did it use a different combination of scales (i.e., PINS, EORTC- QLQ-C15 PALS) to examine the likelihood of a PC referral prospectively but it also used a conceptual framework, which guided how pain, physical and emotional functioning, symptoms and QoL had a differential effect on various demographic groups. Using a conceptual framework, such as a socioecological model, provides a more patient-centric lens for understanding PC referral practices in more depth. Furthermore, an increased understanding of such demographic factors can be utilized in identifying ancillary support, which will also facilitate informed decision-making regarding PC referrals.

This analysis has limitations. Though the analysis had a sound rationale, the study was not powered for this analysis. Generalizability is limited as the study participants were mainly White, non-Latino, well-educated, and receiving treatment in a large, urban, comprehensive cancer center in a major city in the state of Washington. In addition, given the varying data collection points, individual mean scores were used for all the continuous variables which could have hidden symptom trends in the participants' care trajectory. Most importantly, the purpose of this analysis was primarily exploratory. Therefore, the study did not focus on identifying or generating a model with high predictability. Rather, the focus was on examining the meaning of all variables, both combined and separated, to explore the impact of the various factors on receiving a PC referral order.

## Clinical Implications

The findings raise important questions and inform the providers to consider different demographic groups when approaching various PRO and QoL screening results. Our study indicated that the odds of receiving a PC referral order would depend on relationship status when participants in a relationship and reporting better QOL would have lower odds of PC referral. Though this finding might lead one to believe that people in a relationship would have enough support and do not need a PC referral, providers should instead approach this as an opportunity to obtain knowledge regarding the participant's support system and possibly include clear promotion of a PC referral accordingly.

Overall, the study provides evidence that referral to PC should not rely solely on symptom and QoL screening. Rather, a concerning symptom or condition detected via screening or expressed by the participant should invite a discussion so that the participant's various socioecological factors related to medical treatment are explored and considered. In addition, by considering such factors, discussions around care can be better understood and any areas requiring additional resources out of the provider's scope of practice could be identified for further assistance. A comprehensive understanding of the factors impacting PC referral orders will potentially assist in normalizing the PC referral process in the best way possible.

## Conclusion

In conclusion, our analysis sheds light on the intricate interplay between patient-reported outcomes (PROs), quality of life (QoL), and demographic factors in predicting palliative care (PC) referral orders among women with recurrent ovarian cancer. Notably, while pain, a commonly recognized burden in advanced ovarian cancer, did not independently predict PC referral, appetite loss emerged as a significant factor. Our findings underscore the importance of considering not just symptoms but also demographic variables such as relationship status and education level in PC referral decisions. Of particular significance is the interaction between appetite loss and relationship status, suggesting that being in a relationship may heighten the likelihood of having a PC referral order in the presence of certain symptoms.

Ultimately, our study underscores the need for a patient-centered approach to PC referral, one that goes beyond symptom management to consider the broader context of patients' lives and support systems. By integrating such considerations into clinical practice, healthcare providers can strive towards more informed and personalized decision-making in the referral to palliative care, ultimately enhancing the quality of care for patients with recurrent ovarian cancer. Further research is needed to investigate PRO effects on PC referral in a more diverse group of participants to better understand the multifactorial components that factor into having a PC referral.

## Reference

1. Bakitas M, Lyons KD, Hegel MT, et al. Effects of a Palliative Care Intervention on Clinical Outcomes in Patients With Advanced Cancer. *JAMA*. 2009-08-19 2009;302(7):741. doi:10.1001/jama.2009.1198
2. Temel JS, Greer JA, Muzikansky A, et al. Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer. *New England Journal of Medicine*. 2010-08-19 2010;363(8):733-742. doi:10.1056/nejmoa1000678
3. Temel JS, Greer JA, El-Jawahri A, et al. Effects of Early Integrated Palliative Care in Patients With Lung and GI Cancer: A Randomized Clinical Trial. *Journal of Clinical Oncology*. 2017-03-10 2017;35(8):834-841. doi:10.1200/jco.2016.70.5046
4. Zimmermann C, Swami N, Krzyzanowska M, et al. Early palliative care for patients with advanced cancer: a cluster-randomised controlled trial. *The Lancet*. 2014-05-01 2014;383(9930):1721-1730. doi:10.1016/s0140-6736(13)62416-2
5. Bakitas MA, Tosteson TD, Li Z, et al. Early Versus Delayed Initiation of Concurrent Palliative Oncology Care: Patient Outcomes in the ENABLE III Randomized Controlled Trial. *Journal of Clinical Oncology*. 2015-05-01 2015;33(13):1438-1445. doi:10.1200/jco.2014.58.6362
6. Ferrell BR, Temel JS, Temin S, et al. Integration of Palliative Care Into Standard Oncology Care: American Society of Clinical Oncology Clinical Practice Guideline Update. *Journal of Clinical Oncology*. 2017-01-01 2017;35(1):96-112. doi:10.1200/jco.2016.70.1474
7. Bennardi M, Diviani N, Gamondi C, et al. Palliative care utilization in oncology and hemato-oncology: a systematic review of cognitive barriers and facilitators from the perspective of healthcare professionals, adult patients, and their families. *BMC Palliat Care*. Apr 13 2020;19(1):47. doi:10.1186/s12904-020-00556-7
8. Nitecki R, Diver EJ, Kamdar MM, et al. Patterns of palliative care referral in ovarian cancer: A single institution 5year retrospective analysis. Article. *Gynecologic Oncology*. 2018;148(3):521-526. doi:10.1016/j.ygyno.2018.01.018
9. Agne JL, Bertino EM, Grogan M, et al. Too Many Appointments: Assessing Provider and Nursing Perception of Barriers to Referral for Outpatient Palliative Care. *Palliat Med Rep*. 2021;2(1):137-145. doi:10.1089/pmr.2020.0114
10. Hua MS, Li G, Blinderman CD, Wunsch H. Estimates of the need for palliative care consultation across united states intensive care units using a trigger-based model. *Am J Respir Crit Care Med*. Feb 15 2014;189(4):428-36. doi:10.1164/rccm.201307-1229OC
11. Hui D, Bruera E. Integrating palliative care into the trajectory of cancer care. *Nature Reviews Clinical Oncology*. 2016-03-01 2016;13(3):159-171. doi:10.1038/nrclinonc.2015.201
12. Kistler EA, Stevens E, Scott E, Philpotts LL, Greer JA, Greenwald JL. Triggered Palliative Care Consults: A Systematic Review of Interventions for Hospitalized and Emergency Department Patients. *J Pain Symptom Manage*. Aug 2020;60(2):460-475. doi:10.1016/j.jpainsymman.2020.02.001
13. Hui D, Mori M, Watanabe SM, et al. Referral criteria for outpatient specialty palliative cancer care: an international consensus. *The Lancet Oncology*. 2016-12-01 2016;17(12):e552-e559. doi:10.1016/s1470-2045(16)30577-0
14. Nevadunsky NS, Gordon S, Spoozak L, et al. The role and timing of palliative medicine consultation for women with gynecologic malignancies: association with end of life

interventions and direct hospital costs. *Gynecol Oncol*. Jan 2014;132(1):3-7. doi:10.1016/j.ygyno.2013.10.025

15. Hay CM, Lefkowits C, Crowley-Matoka M, et al. Strategies for Introducing Outpatient Specialty Palliative Care in Gynecologic Oncology. *Journal of Oncology Practice*. 2017-09-01 2017;13(9):e712-e720. doi:10.1200/jop.2017.020818

16. Wickline M, Wolpin S, Cho S, et al. Usability and acceptability of the electronic self-assessment and care (eSAC) program in advanced ovarian cancer: A mixed methods study. *Gynecol Oncol*. Nov 2022;167(2):239-246. doi:10.1016/j.ygyno.2022.09.010

17. Groenvold M, Petersen MA, Aaronson NK, et al. The development of the EORTC QLQ-C15-PAL: A shortened questionnaire for cancer patients in palliative care. *European Journal of Cancer*. 2006-01-01 2006;42(1):55-64. doi:10.1016/j.ejca.2005.06.022

18. Dilworth S, Higgins I, Parker V, Kelly B, Turner J. Patient and health professional's perceived barriers to the delivery of psychosocial care to adults with cancer: a systematic review. *Psychooncology*. Jun 2014;23(6):601-12. doi:10.1002/pon.3474

19. Hausner D, Tricou C, Mathews J, et al. Timing of Palliative Care Referral Before and After Evidence from Trials Supporting Early Palliative Care. *Oncologist*. Apr 2021;26(4):332-340. doi:10.1002/onco.13625

20. Wadhwa D, Popovic G, Pope A, Swami N, Le LW, Zimmermann C. Factors Associated with Early Referral to Palliative Care in Outpatients with Advanced Cancer. *J Palliat Med*. Sep 2018;21(9):1322-1328. doi:10.1089/jpm.2017.0593

21. Muller S, Fink M, Hense J, et al. Palliative care outpatients in a German comprehensive cancer center-identifying indicators for early and late referral. *BMC Palliat Care*. Dec 12 2022;21(1):221. doi:10.1186/s12904-022-01114-z

22. Opsomer S, Joossens S, De Wit C, Lauwerier E, Pype P. Losing health symbols because of nutrition-related problems in advanced cancer: an interpretative phenomenological analysis. *Journal of Hospice & Palliative Nursing*. 2018;20(5):492-499.

23. Hui-Lin C, Ting G. The experiences, perceptions, and support needs among family caregivers of patients with advanced cancer and eating problems: An integrative review. *Palliative Medicine*. 2022;36(2):219-236.

24. Rodin R, Swami N, Pope A, et al. Impact of early palliative care according to baseline symptom severity: Secondary analysis of a cluster-randomized controlled trial in patients with advanced cancer. *Cancer Med*. Apr 2022;11(8):1869-1878. doi:10.1002/cam4.4565

25. Hui D, Meng YC, Bruera S, et al. Referral Criteria for Outpatient Palliative Cancer Care: A Systematic Review. *The Oncologist*. 2016-07-01 2016;21(7):895-901. doi:10.1634/theoncologist.2016-0006

## Chapter 4.

### Background

Ovarian cancer is the 5th leading cause of death in US women with an estimated 19,710 new cases and 13,270 deaths in 2023 (Siegel, Miller, Wagle, & Jemal, 2023), and a 48% 5-year survival rate (American Cancer Society, 2020). The survival rate has gradually improved over the past decade, attributable to advancements in surgical technology, genetic testing, and the rapid development of various chemotherapy regimens. Ovarian cancer is most often detected at an advanced stage and is characterized by have high recurrence rates requiring invasive surgery and multiple rounds of chemotherapy. High symptom burden due to both the disease and the primary therapeutic modalities are common and have significant effects on quality of life (Nho, Reul Kim, & Nam, 2017).

According to the Center to Advance Palliative Care, palliative care is defined as a specialized medical care for people living with a serious illness. The care is focused on providing relief from the symptoms and stress of the illness so that it improves the quality of life for both patients and their family/loved ones. Palliative care (PC) addresses the gaps in care and unmet needs by providing comprehensive, interprofessional assessments across the eight domains of guideline defined care.

High-quality randomized control trials have supported the facilitation of early PC integration to therapeutic care in those newly diagnosed with advanced cancer by demonstrating a significant improvement in QOL, mood (M. Bakitas et al., 2009; Temel et al., 2017; Temel et al., 2010) and survival rates (Marie A. Bakitas et al., 2015; Temel et al., 2010). Recognizing the value of PC, many national and international health organizations, including the American Society of Clinical Oncology (ASCO) and World Health Organization (WHO), have endorsed the need for early PC integration with concurrent oncology care (Smith et al., 2012). Despite the growing need for PC, patients with cancer often are introduced to PC late in their disease trajectory precluding timely implementation of effective interventions (Nitecki et al., 2018; Teno et al., 2018).

Varying referral practices both on an individual level (i.e., provider) and an institution-level (i.e., hospital setting or health system) also contribute to the disparities and structural inequalities in engaging in PC services (Hui et al., 2016). PC services for patients with cancer have been historically introduced in an inpatient setting where resources related to PC services typically are more concentrated than in the outpatient setting (Heitner, Rogers, & Meier, 2020; Morrison & Meier, 2019). In an ambulatory care setting, it is more common to selectively refer patients who experience uncontrolled or high symptom burden or and distress (Hui et al., 2016; Nitecki et al., 2018). A recent study has demonstrated that integrating ambulatory PC early in the care trajectory for advanced cancer can positively affect the quality and direction of care (Dillon et al., 2021). While referrals to PC in ambulatory care settings require another layer of engagement by the patient who must accept the referral, then schedule and attend the PC consultation, little is known about how ovarian cancer patients perceive and act upon these referrals.

There are many possible explanations for delays in the PC referral process. One is the heterogeneity among clinicians in deciding who should be referred to PC and what symptoms and symptom burden are recognized as indicators of unmet need, and assessing the optimal time for referral (Cho, Goff, & Berry, 2023; Hui, Hannon, Zimmermann, & Bruera, 2018). In our recent study of ovarian cancer patients, increased fatigue and appetite loss were associated with PC referrals, and reports of higher quality of life with lower referral rates (Cho et al., 2023). However, studies rarely explore the contexts of care and how these contexts create complexities of PC service use, from both provider and patient perspectives. Therefore, additional qualitative studies are required to contextualize the factors related to their diagnosis and care in patients with advanced ovarian cancer by better understanding their internal dialogues regarding the diagnosis.

In this study, we used an interpretive phenomenological approach to conduct and analyze interviews with women with ovarian cancer who were enrolled in a study to screen for high symptom burden and identify women who met criteria for a referral to palliative care. This stage of illness represents a type of existential crisis, where the women must integrate information coming to them through multiple sources, including their lived body with cancer symptoms, prognostic information from labs and imaging, and responses to treatment. The objective of this study was to elucidate the lived experiences of women with advanced ovarian cancer to understand how they experience the meaning of their current and future lives and how they navigate their treatment. Phenomenology is specifically appropriate in this situation as it highlights how people make sense of their lived world through information processed through their body and across time, space, and in relation with others (Toombs, 1988). Ovarian cancer research mostly attends to imaging and laboratory works, not the patients' lived experience of either the disease or its treatment, relegating their subjective experience to the periphery. Phenomenology is particularly useful to examine sense-making around significant turning point events, such as being eligible for palliative care services. The changes in the body affect how time, space and relations are experienced and can be a chaotic disturbance in the patient's lifeworld (Toombs, 1988). Through these narratives, we can identify and name what these women struggle with and use this information to recognize and respond to unmet needs during treatment.

## Methods

### Design

In this cross-sectional, qualitative study, a phenomenological hermeneutic approach (Heidegger, Macquarrie, & Robinson, 1962; Van Manen, 1990) was applied to understand and interpret the contextual patterns of meanings, values, and relations that reflect the direct nature of living.

### Subjects and Setting

Interviews for this study were conducted between March and December 2022. Participants were recruited from their enrollment in a larger study, conducted between September 2020 and February 2022 in a Gynecologic Oncology ambulatory clinic at the University of Washington, Montlake campus. The parent study, *electronic Self-report Assessment and Care* (eSAC), used a one group, pre-post design to evaluate the clinical implementation of an efficacious web-based self-report, self-care system for cancer symptoms and quality of life (Wickline et al., 2022). Eligible eSAC participants were adults (age >18) who could read and speak English and had stage III/IV and recurrent ovarian cancer. Using an internet-enabled device, participants completed symptom and quality of life questionnaires any time the participant chose to monitor their symptoms. They also were prompted by email to complete a report 5 days prior to in-person clinic visits. Results from these surveys were summarized using color-coded graphics and hand-delivered to the participant’s provider prior to the visit. The report included indicators for referral to outpatient palliative care when appropriate, and instructions on how to reach the PC team in another location four miles from the main clinic.

The eSAC study system would have triggered a recommendation to both patients and providers for a PC referral based on any one or more of the following reported scores: 1) Pain Intensity Numerical Score (PINS) 7-10; 2) EORTC Quality of Life Questionnaire Core 15 Palliative Care (QLQ-C15 PAL) “have you had pain” at 4; 3) QLQ-C15 PAL “did pain interfere…” at 4; or 4) QLQ-C15 PAL “quality of life” at “1, 2, 3.” Moderate-to-severe levels of outcome severity prompted a “pushed” teaching tip regarding the issue. The web-based teaching tip included a brief introduction of what evidence-based practice recommends regarding PC (including a video clip from ASCO), a telephone number that directly connects them to make an appointment with PC services, and a short description of how the patient can communicate with their provider when initiating a discussion related to PC referral and services. Over the course of the eSAC study, 78 of 120 (65%) participants triggered the PC referral recommendation on at least one report; 46 of those (59%) were referred to PC and 49 (63%) had an initial PC visit by six weeks after the end of the enrollment period (Goff, Pike, Wolpin, Cho, & Berry, 2023).

For this interview study, eligible participants were 18 and above, able to speak and read English, previously agreed to participate in the eSAC study, completed at least one report, and were one of the 78 who had triggered a recommendation for PC referral. The study obtained an IRB approval from the Human Subjects Division at the University of Washington to recruit a purposive sample of up to 15 participants. This number was selected based on previous qualitative research exploring transition experience of patients with advanced cancer in six European countries (10 to 20 from each country) and also a study exploring ‘sense making’ of receiving PC in Sweden where they recruited 14 participants to reach concept saturation (Larkin, De Casterlé, & Schotsmans, 2007; Ohlen, Wallengren Gustafsson, & Friberg, 2013). Participants who previously triggered a PC referral recommendation in the eSAC study were contacted by the clinic charge nurse to seek their interest in participating in an interview. Each potential participant then was contacted by email or telephone and the researcher described the study, provided a consent form, and ascertained their willingness to participate. Subsequently, an interview date and time was scheduled at the convenience of the participant.

### Author positionality

I, the lead author, have been trained as a nurse providing care for patients with diagnoses including cancer, terminal heart and lung disease, and dementia. With years of clinical experience and a passion for research, I stand at the intersection of care and inquiry, poise to systematically analyze the lived experiences of patients with advanced ovarian cancer and palliative care referrals. It is also of particular interest to me as a study member of the eSAC study, to facilitate and enhance patient-provider communication and expand on the patient's approach to seeking care. The proximity to the clinical setting provides this study with a unique vantage point for the readers who might later utilize the findings of this study. Both myself and the eSAC study, through whom I gained contact with the participants, are not detached observers but active participants in the ongoing narrative of women living with advanced ovarian cancer. A phenomenological approach was explicitly selected as a methodology of this study as it closely relates to my profession and is attentive to examining personhood with a holistic approach. Through this study, I try to take on both a clinician and a researcher's role and apply systematic approaches to collect stories and interpret them with clinical insight and research rigor. Participants were made aware of my status as a clinician and a researcher and the intention of this study prior to participating in this interview study.

### Data collection

After individually consenting to participate in the study, data were collected through a semi-structured telephone interview that consisted of two main parts. First, a discussion of their diagnosis and treatment of advanced ovarian cancer, then a discussion of their beliefs about and experience with palliative care. Prompts encouraged participants to elaborate on their thought process in making decisions regarding ovarian cancer treatment. Participants were asked to explain the meaning and significance of PC services and how decisions to engage in PC were made.

Interviews were audio-recorded using software (Otter.ai) and a back-up audio recorder. Field notes were made to record the observation details and interaction processes.

***Table 1**. Interview guide*

| Interview Guide Content | Description |
|---|---|
| Part 1: Diagnosis and Treatment of Advanced Ovarian Cancer | Participants were asked about their initial diagnosis and treatments received until the time of the interview. |
| Part 2: Exposure to Palliative Care (PC) Services | Participants were prompted to recall and elaborate on their experiences of being introduced to PC services prior to the interview. Questions aimed to probe participants' awareness of PC and investigate factors that prompted their exposure to PC. |

## Data analysis

An inductive, reflexive thematic analysis was used as a structured approach to explore palliative care referral experiences of patients with advanced ovarian cancer (Braun & Clarke, 2019). The analysis took an inductive approach as the aim of the study was primarily exploratory of the phenomenon experienced by patients with advanced ovarian cancer. This study selected to forgo positivistic conceptions of coding reliability, thereby choosing to apply the interpretive nature of data coding of reflexive thematic analysis instead of the codebook approach (Braun & Clarke, 2019).

The analysis followed the six-phase process proposed by Braun and Clarke (2021, Table 2) . Focusing on achieving a greater contextual understanding of the data, the six phases were analyzed in a recursive and iterative manner rather than in a linear, sequential order. The analysis focused on eliciting the characteristics (i.e., degree, suddenness, type), meaning (i.e., stress, relief) of the transitional event (i.e., diagnosis and treatment, triggered for PC referral)and the environmental factors related to that transition that supported or limited the participants level of well-being (Chick & Meleis, 1986).

***Table 2**. Steps of Reflexive Thematic Analysis*

| | **Process Description** |
|---|---|
| Phase 1: Familiarization | This phase involved listening to audio-recordings of interviews immediately after each session, and later as necessary, to gain familiarity with the data. Note-taking was utilized to capture initial trends or meaningful excerpts. |
| Phase 2: Initial Coding | An individual coder (S.C.) engaged in an active and iterative process of coding, focusing primarily on semantic coding to capture participants' experiences as expressed. Notes were taken to document the researcher's understanding of codes within the context. |
| Phase 3: Theme Development | Codes were reviewed multiple times and collated in a visual map. |
| Phase 4: Data Interpretation | An iterative process of visual mapping assisted in developing commonalities in the data. Multiple iterations of mapping and writing up interpretations resulted in the refinement of themes and subthemes. Themes were named to closely link with representative quotations, with attention to individual context. |
| Phase 5: Theme Refinement | Themes and subthemes were refined, with names closely linked to representative quotations, some including participants' quotes where appropriate. The refinement process aimed to create a cogent narrative of the data, ensuring logical and meaningful descriptions of themes and subthemes. |
| Phase 6: Narrative Construction | Themes and subthemes were described in a logical and meaningful manner to construct a coherent narrative of the data. |

## Results

### Participants

Fifteen women agreed to be contacted by the researcher and 13 women with advanced ovarian cancer were interviewed. Three participants were referred to PC; one had a negative PC experience due to privacy concerns and insisted that she would not seek PC again; another recalled having PC consultations early on in her treatment and had stopped attending but was thinking of introducing PC again, and the third was receiving on-going PC services at the time of the interview. The other ten participants had not been referred to PC by their providers despite the eSAC software prompt to the participant and the provider for a PC referral. The majority of the participants were 60 or above age and all but one participant was non-Hispanic White (Table 3).

***Table 3**. Participants Characteristics (N=13)*

| | | **N (%)** |
|---|---|---|
| Age | 50-59 | 3 (23%) |
| | 60 or above | 10 (76%) |
| Race | Non-Hispanic White | 12 (92%) |
| | American Indian/Native Alaskan | 1 (8%) |
| Work | Working full-time | 2 (15%) |
| | Working, but on medical leave | 1 (8%) |
| | Not working | 2 (15%) |
| | Retired | 5 (38%) |
| | Working part-time | 3 (23%) |
| Education | 9-12th grade | 1 (8%) |
| | 2-year college | 1 (8%) |
| | 4-year college | 7 (53%) |
| | Graduate degree | 4 (31%) |
| Relationship Status | Single | 5 (38%) |
| | Married/Partnered | 8 (62%) |

## Part 1: Cancer narratives

The perception of lived time and the speed with which things changed was a prominent theme from these women's stories. The participants' commented on the suddenness of being diagnosed, the fast pace of treatment initiation and what that meant for their understanding about their prognosis and possibilities for future time, and their personal attitude towards the fast-evolving situation. Despite the relatively long treatment durations due to frequent recurrences, altered sense of time and subsequent changes to their perspectives towards their body and the space to where they were being treated were noticeable. The following narratives portray how priorities in life shifted due to the change in women's sense of their own time.

### Theme 1: *Boom, boom, boom; everything moved fast*; *no time to think through it*

Participants described their cancer journey, from diagnosis to going through cycles of treatment, as being fast and unrelenting because of getting diagnosed with metastatic disease that signaled urgent intervention. One participant spoke to the need to start immediate treatment with little notice.

> When you're first diagnosed, you go through chemo. It was some really dark days. And because I was so physically hit with everything else, so sudden and I understand looking back. They have to act fast because this is something that is growing in you and the bigger it gets, the harder it is to treat. (P004, never saw PC)

Reflecting back on her experience, another participant highlighted how she perceived her diagnosis negatively due to the quick advancement of the disease.

> … when I was first diagnosed and my cancer occurred pretty quickly, I really thought I might have you know, a good five years if I was lucky. (P007, never saw PC)

Other participants pointed out how the recurrence of the disease added on another challenge to the evolving situation that was already "fast."

> And like most patients, I think with by the time I was diagnosed it was pretty advanced. So I was in surgery very quickly. Everything moved fast. From once I got diagnosed, it was a blur… All that stuff messes with your memory and so it's just a big gap in my mind. I couldn't tell you a lot of details from those weeks. But I was pretty sure I wasn't gonna make it … I thought at the worst…when I learned how serious it was, I just couldn't I absolutely had trouble wrapping my mind around it because I just have never been sick. (P003, never saw PC)

Another participant described the shock of how fast she had gone from being dismissed after first noticing several unusual symptoms that developed over time to going into emergency surgery and then on to chemotherapy.

> And for at least a year prior, I had been telling my primary [care provider], you know things aren't right and I'm gaining weight, just all bloated. And she just kind of dismissed it. … So, I got to the hospital; a wonderful surgeon, Dr. X. We saw her at the doctor's office and she was going to dismiss these too until my husband had to tell her the colonoscopy results and pictures. And then she saw me convulsing on the table and she's like, 'Oh, can you get her into the hospital right now?' So I had, they admitted me to [the hospital], and I had, did the CT scan during the night and saw the test. And then around noon [next day], she had come in and she told me you know, we're gonna have to

> do surgery and probably have an ostomy bag. She marked me all up and explained what that was. ... Open me up and my left ovary had ruptured my colon. And then there were three tumors in my liver. And she took five lymph nodes and three of them were cancerous... She had had one and a half tumors left in the liver. So then I had, that was all closed up, went home and started chemo in February. That was first Taxol and carboplatin… You're in shock because you don't know what thing is going on. [All] just happened boom boom boom, no time to think through it. (P009, never saw PC)

One participant spoke in relation to a similar challenge with curative treatment.

> I've been cycling through medicines pretty quick. So, each time it's like they've just a slow march on you know, the cancers making headway all the time. We just slow it down… (P010, never saw PC)

The diagnosis of advanced ovarian cancer and metastatic disease fast forwarded the participants' sense of time, that became focused and directed toward attending to treatments and medical tests to track their disease status. Overall, the sense of shock and lack of time for reflection permeated their narratives.

### Theme 2: ***Okay, on to the next thing…***

The diagnosis of advanced ovarian cancer not only brought about a quick shift in health status but also continuous decision-making situations to react to the fast-evolving situation of being in treatment and experiencing recurrent disease. Participants mostly focused on staying in the present moment due in part to the unrelentless tasks and decisions required for their care, which in turn took time from processing their current situation and planning their future.

One participant described her support system during the continuous treatments.

> I told my husband it was really right by me and I just he just right by my side just going "okay, on to the next thing" and every time I go to my appointments I go "I can do this;" just get through it and the days that I feel good is what really what helped me get one that I am not even thinking about this, that I have late stage cancer. (P004, never saw PC)

Another participant spoke about their reaction to the multiple recurrences.

> For me it's just like I said, just kind of almost like, ‘oh, well, here we go again.’ So sometimes I felt really lucky like to have the two-year break when after the initial radiation … Yet when it recurred after that, I feel like I've been prepared for that it's not gonna stay away that it's gonna be back. (P007, never saw PC)

A participant spoke about ‘transitions’ where one would be focused on care rather than cure in medical decision-making. She then stated that there were multiple situations where decisions had to be made and optimized to take on the *fast*-moving situation.

> I don't want to be suffering at the end. I don't want to be some pathetic shell of a human at the end. You know, I want to have as full a life as possible. But then again, at the beginning, if you had asked me if I would have ever imagined I would have been, I think I've been sat in that chemo chair like 80 times at this point or something. ... if you'd asked me that five years ago, I would have thought you're crazy. I would never agree to that. Yet here I am. So… So it's a moving target too. I think like what it is you are willing to tolerate and what becomes acceptable as it all progresses. There is no line in the sand which I was quite, you know, adamant about (laughs). (P002, engagement with PC ended after one visit)

One participant described how decisions regarding treatments required “some time” and how the input from a readily available resource (i.e., provider) assisted in her making certain decisions.

> I've already done so much research on stuff, so I go back to that. I don't like to kneejerk my medical [inaudible] but sometimes we have to… I like to give it some time. Now my primary care; she will she looks things up with me there. She’s not sure what she wants to do with my treatment, or what something's called, then she's on the computer. She's looking it up and telling me all about it. It’s like, wow this is great. So that way I can make a quick decision because she's right there with me. (P009, never saw PC)

Another participant reflected on the decision-making situations throughout her care trajectory. The response below implied that it was important to optimize their use of time due to the continuous sequence of events.

> … I can look back over the last five years with this decision and even like getting diagnosed, getting diagnosis was horrible. And it was that really overshadowed a lot of my moving into this honestly. But, but it's also just like I could look back at different decision points along the way of things we decided to do and I would say, like, maybe would have been better do something else… And then it's like, well, you don't know that at the time, and you just have to own the decision and move forward because that's all you, that's really all you can do. So that it's been very helpful for me to try to just get all the information I can and try to expand it as best I can. And then you just decide, and you go and then you do whatever the next thing is. Yeah… (P002, engagement with PC ended after one visit)

Participants shared stories of continuous treatment decisions and transitions, highlighting the need to keep moving forward amidst uncertainty.

### Part 2: Perceptions of, and barriers to, palliative care

Since the majority of the participants did not act on the positive screen for palliative care, most of their comments about PC the patients and most of them denied the need for it. Three themes were evident.

#### Theme 1: *Exploring the need for palliative care*

Among the majority of the participants denied the need for PC, a few participants recalled the event that initiated their discussion around the need of PC with their healthcare providers.

One participant who previously had once engaged in PC prior to participating in the eSAC study, was thinking of having another conversation with her provider regarding PC.

> … it's become clear after this testing and the new the developments that have happened in the last two to three weeks that my cancer… it's really obstructing and interfering with vital systems and I'm at risk of you know, having major, major emergencies and you know, more problems in the very near future.” (P002, engagement with PC ended after one visit)

She also added on her frustration with the lack of care coordination and expressed the need for a place to have her questions answered regarding her care and next steps. This participant further vocalized the need for PC so that she could gauge her treatment options.

> I want the information to understand the risks and the benefits and then you can weigh it with my own quality of life choices. You know, like so for example, an intervention for this colon problem is happening now they could potentially well they could do a scope. You know, what do you call it a lower endoscopy, which would be problematic because the colon is now fixed to the back of the peritoneum, you know, and so that could be problematic in and of itself. … But, but none of that is anything that I'm interested in, because what do you gain from that kind of thing? Right? It's like, what do you gain from stenting stuff that's being blocked by cancer if the cancer is not controlled? So, I don't you know, these are changes this this is the stuff I'm grappling with right now and one of the reasons I am looking at palliative care and trying to because it's sort of the decision tree. (P002, engagement with PC ended after one visit)

Another participant recall being introduced to PC through her oncologist which eventually motivated her to further investigate PC services. She had been informed that "people who receive palliative care along with their chemotherapy or the other treatments had much better results." (P012, currently seeing PC) Though the participant did not recall any events that initiated the discussion regarding PC, she was "emotionally looking for more support." She also highlighted the need for more information regarding her medical status and treatment options as a reason for exploring PC.

> I am a firm believer that the more you know, the better off you are. And what I was not getting in the oncology treatment was sufficient information. At least I felt that was. I mean, you know, it's pretty busy time when you're seeing your oncologist or you're getting an infusion or you're getting treatment of whatever kind and it's difficult to get people to be, um, to come forth with information because it takes time to do that. And what I was looking for was to understand more clearly what was happening to me. (P012, currently seeing PC)

### **Theme 2:** ***Conflating PC with hospice care***

The participants' evaluation about the 'right' time for PC varied and the majority of them claimed that they were not ready for PC 'yet.' Participants had a preconceived notion of what a PC referral meant to them that kept them from seeking PC services.

> You know, I think Dr. X made a reference to it and I misunderstood her. I was thinking she was really, I mean obviously she wasn't saying hospice, but she was… I misunderstood what she meant by palliative care. And so, I was taken aback. You know, that's my own misunderstanding of the use of the word. (P010, never saw PC)

In addition, there was an underlying notion about 'the time' for PC being "end of life."

> Uh, it to me it signaled the end of my life as being closer and I saw it as… I suppose what it really means is to help you deal with any pain? But I saw it as for instance, when I met with Dr. Y who does radiation and she talked about how, you know there are too many tumors that we could not treat them with radiation. But if one of them got to be really painful, we could radiate it for from a palliative…perspective, we could address it and so when I heard it that way, it didn't, um it didn't get me going but it did very clearly signal 'you only can do systemic care. You're not doing surgery, you're not doing radiation. Okay, you're farther down the road'. (P010, never saw PC)

There was a pronounced perception of engaging with PC with "giving up" care when asked about why PC was not considered in their care.

> Because I know just to have always associated that with end of life, and I just wasn't ready to go and so for me to investigate palliative care. I associate that with giving up. (P003, never saw PC)

Another participant claimed that they would "wait till later on when my provider introduces it… well I guess I haven't gotten that far yet." (P005, never saw PC). This statement further elaborated that the patients rely heavily on the necessity of PC to be evaluated by the provider and in return if PC is not introduced by the provider, it would signal that they are not "that far" therefore not requiring PC.

A participant claimed that since the treatment had a positive impact on the tumor markers going down, they deemed considering PC unnecessary regardless of the symptom burden that they might have experienced.

> I probably didn't think about it because it wasn't the time to think about it. It had been different if we came to the first like, chemo session, and my body didn't respond, which I know is true for some people… my CA-125 dropped dramatically after the first chemo. and it continued to drop till it got down to normal within two cycles. So, so yeah, so I don't I didn't dismiss it. It just wasn't … I didn't need to really consider it at that point. But I was aware of it. I was aware that that was an option when I needed it. If I needed it. (P001, never saw PC)

Similarly, a participant who was content with her current health management and with the current health status questioned the need for a PC service. From her perspective, her oncology team was managing her needs and doing primary palliative care so did not see the value of involving the specialty PC team.

> I am treating my symptoms and side effects. And they're telling me I kind of know which questions to ask. … now is this rash is from the Keytruda I believe, maybe some from the radiation, so I didn't I don't really see the need for like separate palliative care. (P004, never saw PC)

Several other participants were confident in that their symptoms were adequately attended from their current medical team. This emphasized a form of primary palliative care from non-palliative care clinicians and how that would not necessitate an immediate need for a specialty PC.

> I'm not experiencing a lot of pain in general, and I feel like when I have side effects between the MDs and the naturopaths, we address my issues. So, you know, am I already engaging in palliative care in that way without it being official? (P010, never saw PC)

> My body tells me that my labs are good my bone marrow is still functioning with all these hits of chemo and radiation and all the other maintenance. So yeah, I just I’m not… my questions are being answered at that time. (P004, never saw PC)

One participant emphasized that having ‘enough support’ as the reason why they were reluctant to consider PC services.

> And you know, it's not something I ever even entertained the need for it. Because I've had a great support system with my family, I think. (P001, never saw PC)

Participants also stated that the name of ‘palliative care’ was what led them to perceive PC as care at the end of life. One participant stated that she “would have done everything in it if you just never used the word” while referring to the description of PC provided from the interviewer. Most of the responses to the question regarding the need for a PC in their care indicated that the participants had a very limited understanding of the scope of PC services, evident by denying the need of a PC referral.

> “I almost feel like there needs to be a different name or a different approach to patient education because the minute you tell a cancer patient about palliative care, I fear most of them would be like me, say so that’s it that you're giving up or do you think I'm you think I'm a lost cause.” (P003, never saw PC)

### **Theme 3:** ***One more thing… that’s a load on you***

There was a shared frustration and worry among participants of how PC felt like an additional “burden” to the diagnosis, treatment, and the personal life transitions that were already overwhelming. One participant stated,

> I had my little times, kind of getting over chemo. I've had acupuncture and massage and reflexology and you know, all these other kind of other things that made me feel better and stronger and just taking care of my kids and not wanting to have to go to any more appointments. I felt like I was managing fine, good, feeling healthier, you know. (P008, never saw PC)

Another participant perceived the care system to be burdening the patient with more “loads.” The participant pointed out the lack of care coordination and the challenges with introducing PC into care in relation to having care for ovarian cancer and other comorbidities and stated:

> I was reluctant at first because I was already pretty occupied with having to go to doctors' appointments and chemotherapy and whatever and I didn't I didn't want to burden myself any further… if I could say one of the reasons I was reluctant to contact palliative care to begin with, was, as I said, I didn't want to further add to my burden, right more people to talk to more treatment, more questions to answer, more appointments to keep. (P012, currently seeing PC)

This participant eventually sought PC because she wanted additional emotional support outside of oncology care. The participant also highlighted that it wasn't until she had experienced PC that she was able to validate and confirm what PC was about and could understand what they contributed and how it filled a gap in her care.

Another participant spoke about how much time cancer was taking up in her life and the desire to avoid adding more: "I just don't have a ton of extra time and so the fact that the chemo takes a number of hours and all the checkups take a number of hours like just the less that's I guess my other thing I wanted to say to you like, the less time for me to be in a medical establishment the better." (P003, never saw PC) Another patient vocalized a similar experience in relation to what PC integrated into their care would look like:

> It's like one more thing. And even like with acupuncture, I was doing that before I got cancer and I still do it. But it is like sometimes you don't even feel like doing that because it's like one more appointment you got to do when you already like feel like that's your life. I get that too. That's it's really helpful to you that it's not a priority. (P013, negative prior experience with PC)

Some participants stated how dealing with the symptom burden during treatment didn't allow them to think about any other options, including PC services.

> … I mean, there was so much drama around that first chemo. I knew my hair was gonna fall out. I had no idea how it would feel. And honestly after the first chemo, I felt really horrible for about several days, because I think there was so much killing off of cancer happening. Yeah, so that's why I think, you know, there was there wasn't space to think about palliative care or the necessity

> later… when you're going you're going into something going….there's a good chance I won't survive. The last thing you're thinking about is the care for that. (P001, never saw PC)

Another participant explained the reason she had dismissed the opportunity to engage in PC.

> So, when I finished my first treatment, and I did meet with a survivorship program [that] probably was in that packet. But I didn't think that was for me. You know. Because that was I at that point, I was just looking at what could help me in that, you know, I'm done with this. I'm moving on and like just a good blip on the radar is what I thought after the first time. If it was in there, I'd probably just skip right past it. (P008, never saw PC)

## Discussion

These study findings provide a unique insight into experiences of being diagnosed with advanced ovarian cancer, receiving treatment with recurrences, and sharing thoughts about PC in care. The interpretation of the results demonstrated the limitations and barriers to PC referral, ultimately providing more insights into what could be done as collaborating entities to PC referrals.

Participants with advanced ovarian cancer perceived their care trajectory as fast-paced and unrelenting, from diagnosis to treatment, and the recurrences leading to the continuation of treatments. Participants described their experience of dealing with recurrences that lead to a continuation of multiple lines of treatment, which resulted in making various treatment-related decisions along the way, and how it was impossible to dwell on one treatment given the rapid evolvement of the situations. Among the few studies that have described women's illness experiences with advanced ovarian cancer from their perspectives, a study from Finlayson et al. (2019) demonstrated how women perceived their disease to be chronic, inability to make treatment decisions, and endurance of emotional distress. Another study by Burles and Holtslander (2013) described how the diagnosis of ovarian cancer altered various aspects of life, both internally and externally, focusing on the physical changes resulting from ovarian cancer diagnosis and treatments. While past research had some focus exploring how women perceive their diagnosis and its impact on their daily lives, no study has expanded on how time, or lack thereof, was an essential factor in treatment decision-making.

A major finding of this study was that the participants held various perspectives toward PC. Most participants conflated PC with end-of-life care and denied the need for PC integrated into their care. Inherent in this understanding of PC was a limited understanding of indications for PC referrals and the scope of PC services that could be provided with or separately in an outpatient oncology setting. Additionally, the results of this study demonstrated the heavy burden of the fast-paced treatment trajectory that is experienced in women with advanced ovarian cancer. Many of the participants in this study declined contact with PC despite self-reports of moderate to severe pain, interference of pain and/or low quality of life. For many participants PC was 'one more thing' on to their already burdensome care plan. Another potential interpretation of the lack of specialty PC use was that gynecologic oncologists or advanced practice providers, seeing these patients every two to three weeks, were providing primary supportive care (Ferris et al., 2009), limiting the provider and/or patient's need for a specialist PC referral. Other potential barriers could have included the need to travel 4-mile distance for the PC consultation as well as the increased risk of exposure to COVID-19 with additional in-person clinic visits could have kept the participants from seeking additional care. Regardless, it is important to note the already burdensome state of the participants care experiences and its impact on the extra burden of care that attending PC might have on this population. Therefore, medical and non-medical providers should take into consideration in practice that, women with advanced ovarian cancer, like many other advanced cancers, require time to process their treatment, challenges, and prognostic information amidst the fast-evolving situation related to their diagnosis and treatment.

Bakitas and colleagues (2017) recommended an interdisciplinary team dedicate time specifically to identifying the patient's understanding of their illness, treatment, and prognosis contributed to the success of all the reviewed randomized controlled trials. Also, providers were recommended that the visit targeted for PC services should be structured for at least 1 hour per month to maximize the benefit of concurrent PC in cancer care. Our findings resonate with the recommendations from research by Bakitas et al. and suggest a step-by-step discussion of what PC entails so that integration of PC does not abruptly occur, resulting in rejection to care transition within this population. In addition, as a step in introducing

PC, there should be an emphasis on addressing perceptions and barriers to PC so that the patients have a clear understanding of the potential relevance of PC to their own care needs. This approach may be important to understand PC perceptions and allow the providers to assess additional informational needs that the patient requires so to provide adequate information.

Other qualitative studies have also been conducted to investigate the experience of PC in patients with advanced cancer. Pini et al. (2021) aimed at identifying barriers and facilitators to discussing PC options with patients with advanced cancer. Similar to our study, the authors interviewed patients who had experience of being referred to PC as well as those who had yet to be referred. Aligning with our study, the authors described how engagement with PC, for those not yet referred to PC, was lacking due to limited awareness of the nature of PC services. In addition, most patients without PC experience described PC services as care reserved for the end of life. In our study, similar but unique features related to perceptions of PC were observed in women with advanced ovarian cancer.

Combining the results from prior studies, it is evident that medical providers should take into account the unique patient perspectives that patients with advanced ovarian cancer hold and be prepared to minimize the missed opportunities that a patient might have with PC services due to the burdensome process of seeking and engaging with PC. A viable method of delivering such support to integrating PC into care may be efficiently delivered through a multidisciplinary team approach including providers ranging from physicians, advanced practitioners, nurses, and social workers. In addition, there should be efforts to centralize necessary resources related to PC for patients seeking information on PC care so that patients are less burdened, and timely access to PC is encouraged.

## Limitation

One of the major limitations of this study is the lack of racial and ethnic diversity in the sample. In the selection process, the clinic charge nurse was able to contact only some eligible participants. Also, only participants who felt well enough to engage in a phone interview responded to the charge nurse and ultimately consented to the study. Lastly, several of the participants included in the list of eligible participants had died or withdrawn from active care in the clinic in the time between the trigger and the interview study, removing the opportunity to hear more from participants who had visited the PC service.

## Conclusion

The results of this study provided a rich description of patient understanding of PC services in the context of their diagnosis of advanced ovarian cancer. There exists a perceived burden on women caused by the consideration of PC while undergoing fast-paced treatment and dealing with multiple recurrences. This study highlights that there remains a challenge in improving patient understanding and engagement with PC despite the increasing health system recognition of the benefits of integrating PC into cancer care. The findings of this study indicated that the task of PC referral will continue to be a complex communication task that requires improvement. This practice will likely include comprehensive assessments that include exploring the patient's understanding of PC, step-by-step introduction to PC care, and providing resources through a collaborative process of various disciplines including both medical and non-medical providers. Practice should focus on unloading the patient's burden of seeking and integrating PC in an oncology setting through studies exploring efficient delivery of PC service.

# Reference

Bakitas, M., Lyons, K. D., Hegel, M. T., Balan, S., Barnett, K. N., Brokaw, F. C., . . . Ahles, T. A. (2009). The project ENABLE II randomized controlled trial to improve palliative care for rural patients with advanced cancer: Baseline findings, methodological challenges, and solutions. *Palliative and Supportive Care, 7*(1), 75-86. doi:10.1017/s1478951509000108

Bakitas, M. A., El-Jawahri, A., Farquhar, M., Ferrell, B., Grudzen, C., Higginson, I., . . . Smith, T. J. (2017). The TEAM Approach to Improving Oncology Outcomes by Incorporating Palliative Care in Practice. *J Oncol Pract, 13*(9), 557-566. doi:10.1200/JOP.2017.022939

Bakitas, M. A., Tosteson, T. D., Li, Z., Lyons, K. D., Hull, J. G., Li, Z., . . . Ahles, T. A. (2015). Early Versus Delayed Initiation of Concurrent Palliative Oncology Care: Patient Outcomes in the ENABLE III Randomized Controlled Trial. *Journal of Clinical Oncology, 33*(13), 1438-1445. doi:10.1200/jco.2014.58.6362

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health, 11*(4), 589-597.

Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative research in psychology, 18*(3), 328-352. doi:10.1080/14780887.2020.1769238

Burles, M., & Holtslander, L. (2013). "Cautiously optimistic that today will be another day with my disease under control": understanding women's lived experiences of ovarian cancer. *Cancer Nurs, 36*(6), 436-444. doi:10.1097/NCC.0b013e318277b57e

Chick, N., & Meleis, A. I. (1986). Transitions: A nursing concern.

Cho, S., Goff, B. A., & Berry, D. L. (2023). Multilevel Determinants of Palliative Care Referral in Women With Advanced Ovarian Cancer: A Scoping Review. *Journal of Pain and Symptom Management*.

Dillon, E. C., Meehan, A., Li, J., Liang, S.-Y., Lai, S., Colocci, N., . . . Luft, H. (2021). How, when, and why individuals with stage IV cancer seen in an outpatient setting are referred to palliative care: a mixed methods study. *Supportive Care in Cancer, 29*(2), 669-678. doi:10.1007/s00520-020-05492-z

Ferris, F. D., Bruera, E., Cherny, N., Cummings, C., Currow, D., Dudgeon, D., . . . Von Roenn, J. H. (2009). Palliative Cancer Care a Decade Later: Accomplishments, the Need, Next Steps—From the American Society of Clinical Oncology. *Journal of Clinical Oncology, 27*(18), 3052-3058. doi:10.1200/jco.2008.20.1558

Finlayson, C. S., Fu, M. R., Squires, A., Applebaum, A., Van Cleave, J., O'Cearbhaill, R., & DeRosa, A. P. (2019). The experience of being aware of disease status in women with recurrent ovarian cancer: a phenomenological study. *Journal of Palliative Medicine, 22*(4), 377-384. Retrieved from https://www.liebertpub.com/doi/pdf/10.1089/jpm.2018.0127?download=true

Goff, B., Pike, K., Wolpin, S., Cho, S., & Berry, D. (2023). Promoting palliative care in advanced ovarian cancer: Significant barriers still exist (1132). *Gynecologic Oncology, 176*, S96-S97. doi:10.1016/j.ygyno.2023.06.053

Heidegger, M., Macquarrie, J., & Robinson, E. (1962). Being and time.

Heitner, R., Rogers, M., & Meier, D. (2020). Mapping Community Palliative Care: Results of a Three-Year National Study (S750). *Journal of Pain and Symptom Management, 59*(2), 557-558.

Hui, D., Hannon, B. L., Zimmermann, C., & Bruera, E. (2018). Improving patient and caregiver outcomes in oncology: Team-based, timely, and targeted palliative care. *CA: A Cancer Journal for Clinicians, 68*(5), 356-376. doi:10.3322/caac.21490

Hui, D., Meng, Y. C., Bruera, S., Geng, Y., Hutchins, R., Mori, M., . . . Bruera, E. (2016). Referral Criteria for Outpatient Palliative Cancer Care: A Systematic Review. *The Oncologist, 21*(7), 895-901. doi:10.1634/theoncologist.2016-0006

Larkin, P. J., De Casterlé, B. D., & Schotsmans, P. (2007). Transition towards end of life in palliative care: an exploration of its meaning for advanced cancer patients in Europe. *Journal of palliative care, 23*(2), 69-79.

Morrison, R., & Meier, D. (2019). America's care of serious illness. 2015 stat-by-state report card on access to palliative care in our nation's hospitals. center to advance palliative care, 2015. In.

Nho, J. H., Reul Kim, S., & Nam, J. H. (2017). Symptom clustering and quality of life in patients with ovarian cancer undergoing chemotherapy. *Eur J Oncol Nurs, 30*, 8-14. doi:10.1016/j.ejon.2017.07.007

Nitecki, R., Diver, E. J., Kamdar, M. M., Boruta, D. M., Del Carmen, M. C., Clark, R. M., . . . Growdon, W. B. (2018). Patterns of palliative care referral in ovarian cancer: A single institution 5 year retrospective analysis. *Gynecologic Oncology, 148*(3), 521-526. doi:10.1016/j.ygyno.2018.01.018

Ohlen, J., Wallengren Gustafsson, C., & Friberg, F. (2013). Making sense of receiving palliative treatment: its significance to palliative cancer care communication and information provision. *Cancer Nurs, 36*(4), 265-273. doi:10.1097/NCC.0b013e31826c96d9

Pini, S., Hackett, J., Taylor, S., Bekker, H. L., Kite, S., Bennett, M. I., & Ziegler, L. (2021). Patient and professional experiences of palliative care referral discussions from cancer services: A qualitative interview study. *Eur J Cancer Care (Engl), 30*(1), e13340. doi:10.1111/ecc.13340

Siegel, R. L., Miller, K. D., Wagle, N. S., & Jemal, A. (2023). Cancer statistics, 2023. *CA Cancer J Clin, 73*(1), 17-48. doi:10.3322/caac.21763

Smith, T. J., Temin, S., Alesi, E. R., Abernethy, A. P., Balboni, T. A., Basch, E. M., . . . Von Roenn, J. H. (2012). American Society of Clinical Oncology Provisional Clinical Opinion: The Integration of Palliative Care Into Standard Oncology Care. *Journal of Clinical Oncology, 30*(8), 880-887. doi:10.1200/jco.2011.38.5161

Temel, J. S., Greer, J. A., El-Jawahri, A., Pirl, W. F., Park, E. R., Jackson, V. A., . . . Ryan, D. P. (2017). Effects of Early Integrated Palliative Care in Patients With Lung and GI Cancer: A Randomized Clinical Trial. *Journal of Clinical Oncology, 35*(8), 834-841. doi:10.1200/jco.2016.70.5046

Temel, J. S., Greer, J. A., Muzikansky, A., Gallagher, E. R., Admane, S., Jackson, V. A., . . . Lynch, T. J. (2010). Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer. *New England Journal of Medicine, 363*(8), 733-742. doi:10.1056/nejmoa1000678

Teno, J. M., Gozalo, P., Trivedi, A. N., Bunker, J., Lima, J., Ogarek, J., & Mor, V. (2018). Site of Death, Place of Care, and Health Care Transitions Among US Medicare Beneficiaries, 2000-2015. *Jama, 320*(3), 264. doi:10.1001/jama.2018.8981

Toombs, S. K. (1988). Illness and the paradigm of lived body. *Theor Med, 9*(2), 201-226. doi:10.1007/BF00489413

Van Manen, M. (1990). *Researching lived experience : human science for an action sensitive pedagogy*. Albany, N.Y.]: Albany, N.Y. : State University of New York Press.

Wickline, M., Wolpin, S., Cho, S., Tomashek, H., Louca, T., Frisk, T., . . . Berry, D. (2022). Usability and acceptability of the electronic self-assessment and care (eSAC) program in advanced ovarian cancer: A mixed methods study. *Gynecol Oncol, 167*(2), 239-246. doi:10.1016/j.ygyno.2022.09.010

# Chapter 5.

Despite the evidence supporting the benefits of timely PC referral, there continues to be a discrepancy between recommendations and actual healthcare practice, in which patients with advanced cancer are often introduced to PC late in their disease trajectory. However, studies have rarely explored the contexts of care and how these contexts explain the complexities surrounding PC referrals. Bringing focus on PC referrals in patients with advanced ovarian cancer, the three papers included in this dissertation aimed to address the phenomenon of continuous underutilization of PC referral and late PC referrals by examining the individualized facilitators and barriers on a broader socioecological level.

The first study provided information on the factors currently considered in PC referrals in patients with advanced ovarian cancer. The results highlighted the importance of comprehensive symptom and symptom burden assessment in this population. This study acknowledged the limitations of clinicopathologic backgrounds in decision-making situations in PC referrals and added to the need for the consideration of non-clinical factors, including socio-demographic and environmental factors.

The second study, a secondary data analysis of prospective PRO data, allowed a closer look at how different symptoms and QoL status might predict one's likelihood of receiving a PC referral order while taking demographic groups into consideration. In particular, the data show how certain PROs could be dependent on demographic factors when predicting the likelihood of a PC referral order. This finding provides valuable information for understanding the various components that need to be assessed and screened when patients and providers discuss the possibility of a PC referral.

Lastly, the phenomenological approach and thematic analysis of the third study created a rich patient narrative regarding the lived experience of their diagnosis and treatment, specific to their body, time, space, and relations in the context of ovarian cancer. The application of a phenomenological approach was especially well-suited for making meaning of the words and expressions used by the participants. The results revealed how time was situated at the center of the participants' experiences. Participants emphasized the overwhelming speed at which events such as diagnosis, treatment, and recurrences unfolded. Lastly, concerns about time constraints, care coordination, and symptom management overshadowed their readiness to engage with PC.

### Directions for Future Study and Clinical Implications

The scoping review underscored the imperative for a paradigm shift in the approach to palliative care (PC) referral for patients grappling with advanced ovarian cancer. The study illuminated the multifaceted nature of factors influencing PC referrals, emphasizing the pivotal role of comprehensive symptom assessment alongside nuanced consideration of non-clinical determinants. As the landscape of treatment modalities evolves with the emergence of novel therapies, there arises an augmented necessity to identify and standardize reproducible factors guiding PC referral decisions. Moreover, recognizing the limitations imposed by clinicopathologic backgrounds, future investigations must adopt a patient-centric lens to glean insights into the PC referral experience.

The findings from the second study not only prompt critical inquiries but also furnish clinicians with invaluable insights into tailoring referral practices across diverse demographic strata. Notably, the study delineates how relationship status and quality of life intersect to influence the likelihood of PC referral, underscoring the nuanced interplay of psychosocial dynamics in care provision. Rather than viewing relationship status as a proxy for support sufficiency, providers are encouraged to leverage this understanding to proactively engage patients in discussions pertaining to their support networks, thereby facilitating informed decision-making regarding PC referral.

Central to the implications of the second study is the recognition that symptom screening alone inadequately captures the complex interplay of socioecological factors shaping the PC referral landscape. Instead, a holistic approach, encompassing both symptomatology and patient-expressed concerns, is advocated to foster a more nuanced understanding of patients' treatment trajectories. By embracing this comprehensive framework, clinicians can navigate the intricacies of care discussions more adeptly, elucidating avenues for ancillary support where needed and fostering a culture of normalized PC referral practices.

The third study offered a poignant glimpse into the patient perspective, unraveling the pervasive sense of burden engendered by considerations of PC amidst the tumult of cancer treatment. Despite strides in health system recognition, patient engagement with PC remains suboptimal, highlighting the imperative for enhanced communication strategies. Moving forward, interventions aimed at demystifying PC, fostering informed decision-making, and streamlining service delivery are advocated to alleviate patients' burden and enhance integration of PC within oncology settings. Embracing a collaborative, multidisciplinary approach, encompassing medical and non-medical stakeholders, holds promise in realizing this vision of patient-centered, integrated PC delivery.