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## Gynecological Cancers and Quality of Life

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## Gynecological Cancers and Quality of Life

### Abstract

#### ABSTRACT

**Background:** Every five minutes a woman in the United States receives a gynecological cancer diagnosis. On average, 88,128 women in the United States are diagnosed with gynecological cancer yearly and 12,158 of those women, or 7% require hospital readmission. Although patient readmission rate is relatively low for this population, a better understanding of how patients frame quality of life (QoL) may decrease readmission stemming from QoL complications. **Objective:** The aim of this study was to identify the QoL issues that contributed to hospital readmission following surgical intervention in women newly diagnosed with gynecological cancer. **Method:** The study used a qualitative explanatory single case study research design. Seven women with newly diagnosed gynecological cancer following surgical intervention and required hospital readmission were interviewed in depth, using a semi-structured interview guide. **Results:** This population defines QoL as independent mobility and the ability to perform household activities. Additional themes were identified related to mobility, physical and psychological impact, and communication contributing to hospital readmission. **Conclusions:** QoL factors contribute to hospital readmission for this population. Understanding how this population identifies QoL will aid in treatment and minimize hospital readmission. **Implications for Practice:** Six recommendations were created based on the findings: (a) implement physical therapy consultations before and after surgery, (b) implement early mobility protocols, (c) communication courses for healthcare providers, (d) support group listings, (e) specific discharge instructions, and (f) implement inpatient psychological evaluation and treatment program.

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## Gynecological Cancers and Quality of Life – a Qualitative Study

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### **ABSTRACT**

**Background:** Every five minutes a woman in the United States receives a gynecological cancer diagnosis. On average, 88,128 women in the United States are diagnosed with gynecological cancer yearly and 12,158 of those women, or 7% require hospital readmission. Although patient readmission rate is relatively low for this population, a better understanding of how patients frame quality of life (QoL) may decrease readmission stemming from QoL complications. **Objective:** The aim of this study was to identify the QoL issues that contributed to hospital readmission following surgical intervention in women newly diagnosed with gynecological cancer. **Method:** The study used a qualitative explanatory single case study research design. Seven women with newly diagnosed gynecological cancer following surgical intervention and required hospital readmission were interviewed in depth, using a semi-structured interview guide. **Results:** This population defines QoL as independent mobility and the ability to perform household activities. Additional themes were identified related to mobility, physical and psychological impact, and communication contributing to hospital readmission. **Conclusions:** QoL factors contribute to hospital readmission for this population. Understanding how this population identifies QoL will aid in treatment and minimize hospital readmission. **Implications for Practice:** Six recommendations were created based on the findings: (a) implement physical therapy consultations before and after surgery, (b) implement early mobility protocols, (c) communication courses for healthcare providers, (d) support group listings, (e) specific discharge instructions, and (f) implement inpatient psychological evaluation and treatment program.

**Keywords:** cancer, gynecological cancer, quality of life, hospital readmission, gynecologic surgery

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## INTRODUCTION

According to the Center for Disease Control and Prevention (CDC) and the Agency for Healthcare Research and Quality (AHRQ), each year 88,128 women receive a diagnosis of gynecological cancer and 12,158 of those women require a hospital readmission.<sup>1,2</sup> Every five minutes, a woman in the United States will be diagnosed with one of the gynecological cancers.<sup>3</sup> Gynecological cancers involve the organs of the female reproductive tract.<sup>4</sup> Newer screening methods for cervical cancer are resulting in an early diagnosis that may decrease cancer-related mortality.<sup>5</sup> Newly developed diagnostic tools resulting in earlier detection for cervical cancer; more effective surgical methods and newer treatment paradigms for all gynecological cancers may increase the prospect for remission and enable more patients to survive longer with the disease.<sup>6</sup> Gynecological cancer diagnosis may derive from women who require hospitalization for treatment from other medical conditions or complications from the disease process.<sup>1,2</sup> Most published studies examine the rates and indications for hospital readmission.<sup>7,8,9</sup> There is minimal research regarding how quality of life (QoL) factors may impact the patient and contribute to hospital readmission.

On March 23, 2010, the Patient Protection and Affordability Care Act (PPACA) became law.<sup>10</sup> The PPACA includes the hospital readmissions reduction program (HRRP) authorizing Medicare to lessen reimbursement to hospitals with excessive readmission rates for medical and surgical complications from various conditions.<sup>11</sup> Currently, there are 10 medical and surgical diagnoses The Centers for Medicare and Medicaid Services (CMS) monitor for readmission, including total knee arthroplasty, total hip arthroplasty, heart failure, acute myocardial infarction, coronary artery bypass graft surgery, chronic obstructive pulmonary disease, and pneumonia.<sup>12</sup> It is anticipated the list will include gynecological surgical interventions in the future.<sup>11</sup> Annually, 2 million Medicare patients are readmitted within 30-days of hospital discharge.<sup>13</sup> Medicare estimates the annual cost of hospital readmission averages \$17.5 billion.<sup>11,13-16</sup> The reduction in healthcare reimbursement resulting from PPACA and HRRP necessitates hospitals' need to examine methods to decrease costs associated with hospital readmission.<sup>10,11,16</sup> CMS estimated that over half of the patients discharged following surgery required hospital readmission stemming from complications.<sup>15,16</sup> Hospitals seek measures to reduce readmission through improved patient safety at discharge, medication reconciliation, improved communication between the hospital and outside services, and increased more effective patient education at discharge.<sup>9,11,17</sup>

The estimated incidence of gynecological cancers in the United States of America is approximately 11%, and in the world, 17%.<sup>18</sup> The most common gynecological cancers are uterine, ovarian, and cervical.<sup>18</sup> Vaginal and vulvar cancer are less prevalent.<sup>19</sup> The advent of newer diagnostic methods, treatment options, and surgical management may improve women's overall survival rate with gynecological cancer.<sup>20</sup> As a result, women live longer with the disease increasing the probability of an impact on QoL following the commencement of various treatments and complications associated with the medical treatments of tumor removal or debulking surgery, chemotherapy, and radiation therapy. Minimal studies have assessed the relationship between QoL of women with gynecological cancer following surgical intervention and hospital readmission, costs, customer relations, and patient satisfaction.<sup>21</sup>

This study contributes to the existing literature by identifying the QoL factors impacted for women newly diagnosed with gynecological cancer following surgical intervention that resulted in the necessity for hospital readmission. Thus, the purpose of this study was to identify how women with newly diagnosed gynecological cancer following surgical intervention define QoL, the physical and psychological impact, and how it contributes to hospital readmission. The study aimed to address the following questions:

How do women with newly diagnosed gynecological cancer following surgical intervention define QoL?

- a. How do physical QoL factors impact post-surgical women with gynecological cancer?
- b. How do psychological QoL factors impact post-surgical women with gynecological cancer?

How do QoL factors contribute to hospital readmission following gynecological cancer diagnosis and surgical intervention?

## Theoretical Framework

Ajzen developed the Theory of Planned Behavior (TPB) to address other contributing variables to the successful implementation of an action.<sup>22</sup> Ajzen's TPB identified the three variables of perceived behavioral control, subjective normative expectations, and attitude toward a behavior as contributing to the implementation of the behavior.<sup>22,23</sup> Perceived behavioral control determines the extent to which a person believes that they are competent to perform a behavior. The inclusion of the theories of the TPB may lead to insights and aid in the discovery of potential barriers impacting women who are readmitted to the hospital. These insights may help healthcare professionals and organizations discern how perceived control impacts decision-making processes of patients requiring hospital readmission following a new diagnosis of gynecological cancer with surgical intervention.

## METHOD

### Study Design and Participants

A qualitative single case study was used for this research. The participants for this study were recruited from convenience and purposeful sampling based on the identification and reporting from nurses and nurse managers based on the following inclusion criteria: (1) new diagnosis of gynecological cancer following surgical intervention, (2) hospital readmission, (3) prior to the completion of the initial course of chemotherapy, and (4) English as the primary language. A more robust sampling method could have involved using hospital admission data to identify readmission following surgical intervention; however, this hospital does not track that data, and the gynecologic-oncologist office would not divulge this information. The sample size consisted of seven women and data collection ceased when data redundancy was achieved along with difficulties in recruitment stemming from the Covid-19 pandemic.

### Ethics

The study was reviewed and approved by the University of Phoenix and Banner Health Institutional Review Boards (Phoenix, Arizona). The participants provided verbal and written consent. All participant identifiers were removed and stored according to institutional requirements.

### Data Collection

Data were collected from multiple sources including: (1) semi-structured open-ended interview questions, (2) medical records, and (3) hospital policies and procedures. All semi-structured open-ended interviews were conducted by the researcher. The 30 interview questions were reviewed, and field tested to elicit data to answer the proposed research questions. The pseudo-interviews conducted during the field test were recorded and reviewed by the researcher and researcher's dissertation chair. The researcher received feedback which was then implemented in the interview process for the study. Each participant interview ranged between 30-60 minutes. The dissertation chair and researcher reviewed all recorded interviews. The interviews were transcribed verbatim by the researcher and participant identifiers were removed. The codes and themes were discussed by the researcher and dissertation chair prior to generating the final themes of this study. The interviews were not returned to participants for comment. The interview guide is shown in Table 1. Medical record information is included in Table 2.

Table 1 Semi-Structured Interview Guide

#### Research Questions

<b>Demographic Questions</b>	What is your full name? What is your age? Who do you live with? Who is able to assist you at home? How do they assist you at home? Do you live in a house, apartment, or mobile home? Do you have to climb stairs or use a ramp to enter into your home? Do you live in a single level home or a two-story home? Do you use public transportation or drive? Did you have any physical limitations prior to your initial hospital admission? For example walking long distances on even or uneven surfaces, climbing stairs, getting in and out of a car. Do you use a walker, cane, or wheelchair for mobility?
<b>Cancer Questions</b>	When were you diagnosed with cancer? What was your initial reaction when you were told you had cancer? What concerns or fears, if any, did you have? Are there other people you know who have cancer? What type of cancer do they have?
<b>Specific Questions</b>	Did you have your next appointment with the physician scheduled prior to leaving the hospital? Did the physician discuss the final pathology report with you before leaving the hospital? Did you know the next steps for the treatment of your cancer before leaving the hospital? When you were preparing to go home from the hospital, what concerns did you have? How prepared were you to leave the hospital? When you arrived at home, what issues or concerns did you have that you hadn't considered before leaving the hospital?

What daily tasks were more difficult that you had anticipated? What tasks or activities could you not complete? What activities did you find to be the most difficult? What tasks or activities were the easiest? What would have been helpful knowing prior to your discharge that could have it easier once you got home? When and how did you decide you needed to return to the hospital? What was your experience of having to return to the hospital? What advice or guidance would you offer for future women in a similar situation?
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Table 2 Medical Record Information

<input checked="" type="checkbox"/> Assessments	<input checked="" type="checkbox"/> Discharge Summaries	<input checked="" type="checkbox"/> Interviews	<input checked="" type="checkbox"/> Operative Reports	<input checked="" type="checkbox"/> Primary Care Physician Records
<input checked="" type="checkbox"/> Laboratory Reports	<input checked="" type="checkbox"/> Outpatient Clinic Records	<input checked="" type="checkbox"/> Problem List (electronic medical record)	<input checked="" type="checkbox"/> Progress Notes	<input checked="" type="checkbox"/> Consultation Reports
<input checked="" type="checkbox"/> Demographic Information	<input checked="" type="checkbox"/> Emergency Medicine Reports	<input checked="" type="checkbox"/> Medication Lists	<input checked="" type="checkbox"/> Pathology Reports	<input checked="" type="checkbox"/> Audio Recordings
<input checked="" type="checkbox"/> Diagnostic Imaging Reports/Films/CDs/Scans	<input checked="" type="checkbox"/> History & Physical Exams	<input checked="" type="checkbox"/> Physical Therapy Records		

**Data Analysis**

The data analysis entailed the recognition of themes from the participants’ interviews, medical records, documentation of hospital policies and procedures for discharge. Participant-observation relating to the identification QoL factors impacted for women following a new diagnosis of gynecological cancer and surgical intervention that contributed to hospital readmission.<sup>25</sup> The analysis required identifying specific words and themes noted throughout the data collection process. The analysis of case study data is an inductive, cyclical process comparing the research questions, the data, the interpretation of the data, the generating of findings, and drawing conclusions.<sup>25</sup> This process generated two main themes, identified by all participants, and five additional sub-themes. The findings were validated from the transcribed interviews, illustrating quotes were extracted and the findings are described in Table 3.

**Table 3 Identified Themes from Participants’ Interviews**

Themes	Description
Theme 1	Women Define QoL as Independent Mobility
Theme 2	Women Define QoL as the Ability to Perform Household Activities
Theme 3	A Diagnosis of Cancer Can Have a Psychological Impact
Theme 4	A Diagnosis of Cancer and Surgical Complications Can Have a Physical Impact
Theme 5	Insufficient Communication is a Barrier to Support
Theme 6	Insufficient Early Mobility is a Barrier to Success Upon Discharge
Theme 7	A Diagnosis of Cancer Following Surgical Intervention and Hospital Readmission Can Have a Psychological Impact

**RESULTS**

No adverse events occurred during this study.

This study included seven female participants between the ages of 30 and 75 years. Of the seven participants, five were Caucasian and two were Native American. Six participants were diagnosed with endometrial cancer and one with ovarian cancer. The staging

of their cancers were 1A(5), 1B(1), and 3C(1). The amount of time for each interview ranged between 45-90 minutes and were concluded when the participant reported they had nothing further to add to the discussion. Participant hospital readmission length of stay ranged between 3-12 days dependent upon extent of necessary medical care.

### Theme 1 and 2: Women define QoL as Independent Mobility and the Ability to Perform Household Activities

The analysis identified that women define QoL as independent mobility and the ability to perform household activities. In reference to mobility, participants identified difficulty with walking, transferring from a supine position to a seated position or from a seated position to a standing position, showering, and dressing. According to one participant, "It took me a long time to get dressed, to clean myself. I didn't shower for a little while...That was difficult, to stand in the shower, I couldn't do it for a while...I still couldn't even hold the shower nozzle." Some women reported a significant decrease in ambulation distance and endurance following surgery, such as P2: "I have slowed down in the length I could walk... 'cause I used to walk a couple of miles a day, and now I'm finding that when I walk 25 minutes, I was like puffing." Some participants were concerned with the loss of independence relating to driving and when they would be able to drive again.

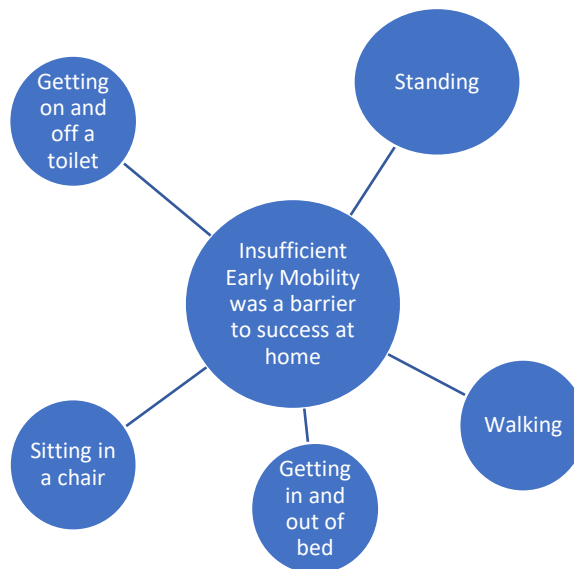
Women also associated QoL with the ability to independently perform household activities including cooking, cleaning, and laundry. And they lamented when they could not, "Bending. I wasn't supposed to pick stuff up or push things or pull things. Washing dishes I couldn't do 'cause I couldn't get near the sink because of the stomach...And I couldn't get near the stove...If I saw a spot on the floor, I couldn't...I usually run around washing the floors, but I couldn't do that...I couldn't make the beds 'cause I couldn't lift the mattress." Most women lived with another individual who was able to assist in the completion of household activities following surgery. See Figure 1 for the characteristics of QoL as defined by the participants.



### Sub-theme 1: Insufficient Early Mobility is a Barrier to Success upon Discharge

Mobility is an essential tool that aids in the recovery from hospitalization or surgery. Early mobility has been shown to decrease complications following extended hospitalization or surgery.<sup>25,26</sup> Physical therapy is frequently consulted to initiate mobility following a procedure and assess possible patient needs for discharge.<sup>27</sup> Multiple participants discussed the instructions from the physician regarding rest and limiting mobility. According to P5, "but the doc was like, no, you just sit and eat, sit and eat. That's it, that's your job. So it was frustrating hearing that". P1 reported specific instructions from the doctor, "Well, you'll be in bed for a week to get lots of rest and stuff". The emphasis on resting and limiting early mobility resulted in difficulties with activities at home. Participants did not have the opportunity to perform or learn compensation skills for simple tasks or engage in activities that could increase their endurance while in the hospital. The lack of physical activity in the hospital resulted in difficulty with mobility upon discharge. P5 reported that she couldn't stand for a long time to prepare an egg. Participants reported difficulty getting out of their bed at

home, getting on and off the toilet, standing for extended periods, and walking long distances. Toilet transfers and bed mobility may be evaluated and addressed by physical therapists or occupational therapists. Deficits in these areas were identified and addressed by the physical therapist and occupational therapist while the patient was initially hospitalized. There are limitations in addressing these issues with hospital bathrooms, toilet height (ADA compliant), mattresses, and bed sizes in the hospital vary from patients' home environments. Figure 2 represents the identified impacted areas resulting from decreased early mobility.



### Sub-theme 2: A Diagnosis of Cancer and Surgical Complications Can Have a Physical Impact

Additionally, physical symptoms were identified by multiple patients including pain, tightness [abdomen], dizziness, and loss of appetite “worse pains, tighter pains [abdomen]...I just hurt...the pain was just too much...I got real dizzy” Other physical symptoms were related to the development of an infection; fever, shaking, feeling cold, nausea, rash, drainage, and loss of energy. P4 shared, “I woke up with a rash near my incisions and I didn’t think too much of it ‘cause they gave me the abdominal binder. So I thought maybe the velcro was irritating it, but as the day went on, I couldn’t even walk or get up. So then I started running a mild fever...And then when we got in the car, I noticed that there was drainage and stuff, and it was really painful.”

### Sub-theme 3: Insufficient Communication is a Barrier to Support

Multiple participants discussed the importance of communication. One participant reported her belief that a communication breakdown began as early as elementary and high school because the inclusion of sex education was prohibited by their culture. The participant suggested a more open and welcoming educational environment for discussion of sexual education may have helped her feel more comfortable communicating with a physician regarding her signs and symptoms. That participant reported that there should be more education out there. Additional areas of communication involved discussing signs and symptoms of gynecological cancer with physicians and complications following surgery. One woman described an issue with communication with the surgeon and radiation oncologist not addressing the continual pain following the initial surgery. She reported multiple discussions with the surgeon and radiation oncologist about the continual pain. Each physician recommended she speak with the other.

Additional areas where the lack of communication was identified included the expected timeframe for pain following surgery, a list of possible complications, and timeframes regarding recovery milestones. Some participants were very impressed with the communication from the surgeon upon diagnosis and following surgery. The communication barrier did not only involve healthcare providers, but also discussing the diagnosis with family and friends. Participants reported trying to stay strong when discussing the diagnosis and prognosis with children and individuals who have experienced cancer. One woman expressed the need for support groups, “We do need a support system of some kind that people can talk about it”. P1 conveyed a story about an acquaintance whose mother was alone when she was diagnosed with cancer, “She was there by herself. If somebody would have just sat with her for a bit and talked to her or come over and talk to her...I’m sure that would have helped her...”. Figure 3 presents the communication issues impacting support.





#### Sub-theme 4: A Diagnosis of Cancer Can Have a Psychological Impact

Multiple participants in the study discussed the psychological impact of a gynecological cancer diagnosis. Some addressed the fear associated with a cancer diagnosis, while others described the fear of the unknown. According to P1, "The fear of it is like...It's always like this monster lurking in the dark, waiting to jump out and grab you". Other participants stressed the importance of psychological support from family.

#### Sub-theme 5: A Diagnosis of Cancer Following Surgical Intervention and Hospital Readmission Can Have a Psychological Impact

One participant described the emotional response to the hospital readmission as: "Oh, I was disillusioned 'cause I thought I was doing so well. Yeah, I was disappointed that I wasn't moving forward. It was like a step backwards. Psychologically, it was a step backwards because I was feeling better and now I'm over here asking how to give me something for pain."

Not all participants reported a negative psychological response to the hospital readmission. According to a participant, "I just think of it as a positive thing. Doctors are here to help you...To help you with your health, and so that's the way I see it".

The diagnosis of gynecological cancer and hospital readmission resulting from complications impacted participants physically and psychologically. Participants identified QoL factors that were influenced by the diagnosis, including physical mobility, household activities, and self-care. Psychologically, participants acknowledged changes in attitude, perspective, and the need for emotional support from family and friends.

## DISCUSSION

The aim of this study was to define QoL for women with newly diagnosed gynecological cancer following surgical intervention who required hospital readmission prior to the completion of the first cycle of chemotherapy. The two main themes, as reported by all participants, associated with the definition of QoL were independent mobility and ability to perform household activities. Additional themes identified by individual participants were insufficient early mobility is a barrier to success upon discharge, a cancer diagnosis and surgical complication can have a physical impact, insufficient communication is a barrier to support, and a cancer diagnosis following surgical intervention and hospital readmission can have a psychological impact.

### Independent Mobility

The participants in this study noted that the ability to perform household activities and maintain independent mobility were characteristics of QoL. Penar-Zadarko et al. noted that women defined an aspect of QoL as role functioning, the ability to perform household activities.<sup>6</sup> Multiple participants reported difficulty, the need for assistance, or an inability to perform cooking, washing dishes, house cleaning, picking up objects from the floor and laundry following the gynecological cancer diagnosis and surgery. The activities identified by the participants in this study align with the results of the study by Andreasen et al. that impacted physical and social aspects of life including ADLs and role functioning were predictors to hospital readmission.<sup>28</sup> The importance of having control, being able to drive, return to work, and independent mobility were also reported as characteristics of QoL by different participants in the study. Vargas et al. and Archer et al., noticed the importance of a perception of control for women undergoing cancer-related surgeries.<sup>24,29</sup> Similar to Brédart et al.'s finding, individuals further defined QoL as the ability to perform normal activities, working, household activities, and independence.<sup>30</sup>

Since the 1990s, early mobility protocols have been implemented in hospital settings to improve postoperative recovery, reduce stress, morbidity, and mortality rates, and decrease hospital length of stay.<sup>31,32</sup> Johnson et al. reported that early mobility decreased complications from gynecological surgery.<sup>26</sup> According to Monteiro Carbone et al. early mobilization programs improved postoperative recovery and decreased pre-operative stress.<sup>33</sup> Four of the seven participants identified difficulty with mobility. One participant reported that the nursing assistance provided resulted in difficulties at home. The delivered support by nursing to assist in bed mobility made it more difficult to perform the task at home independently. Doll et al. suggested that the inclusion of physical and occupational therapy to improve functional and physical status preoperative and postoperative should be explored.<sup>25</sup> While the study by Archer et al. found that the inclusion of physiotherapy was integral to patients getting out of bed and encouraging them to be more mobile.<sup>24</sup> Encouraging patients to mobilize also increased patient confidence that increased activity was not detrimental to recovery.<sup>24</sup> Another participant addressed the surgeon's instructions to minimize activity and emphasized the importance of sitting, resting, and eating. The limited mobility in the hospital setting impacted the participant's mobility at home.

### Physical Impact

Previous studies identified physical factors associated with gynecological cancer surgery including pain, nausea, fatigue, and vomiting.<sup>34-36</sup> The participants in this study reported pain, fatigue, weakness, and a loss of appetite as the prevalent QoL physical factors. All participants in the study noted that they were physically impacted by the cancer and surgical complications. In the study by Andreasen et al. most patients reported moderate to severe problems in mobility and pain.<sup>28</sup> The participants in this study reported the need to implement the use of a walker, a loss of appetite, an increase in fatigue, and an increase in pain with all activities. The physical impact of the gynecological cancer and surgical complications also hindered mobility and independence. A potential means to address these physical issues includes the implementation of an early mobility program as noted by Monteiro Carbone et al., to decrease some of the identified physical factors following gynecologic cancer surgery.<sup>33</sup> Raphaelis et al. indicated the importance of counseling for patients with gynecological cancer regarding symptom distress, to address the physical impact of the diagnosis, and to address questions related to surgery.<sup>37</sup> The inclusion of an early mobility program and patient education from nurses at discharge may result in a decrease in hospital readmission as suggested from early studies.<sup>17,36,37</sup>

### Communication

The importance of communication, as it related to verbal interactions with physicians and families, signs and symptoms of gynecological cancer, recovery progression, and the prevalence of support groups was mentioned in some capacity by all participants in the research study. Women reported feeling more positive regarding their diagnosis following reassurance from the surgeon, which correlated with the results of the study by Dahl et al.<sup>38</sup> Lack of communication and knowledge regarding

gynecological changes before and after diagnosis played a role in seeking medical care at a later stage of disease progression and limited education of signs and symptoms associated with complications resulted in delayed medical treatment. As reported by Kashyap et al., lack of knowledge regarding risk factors and prevention resulted in delayed diagnosis of gynecological cancer.<sup>39</sup> Study participants identified the importance of asking questions regarding activities and signs and symptoms of complications. These issues were identified in the study by Archer et al. that once patients returned home following their initial hospitalization, they felt alone and were reluctant to communicate with healthcare providers.<sup>24</sup> The Committee on Gynecological Practice, recommended written information addressing guidelines regarding when to contact the surgical group, recovery guidelines and advice, and emergency contact information be given.<sup>31</sup>

Every participant reported a psychological impact as a consequence of varying communication with healthcare providers. All but one participant addressed the importance of friends and family support and the need for support groups for encouragement and to help identify complications. The opportunity to discuss and express emotions with family and friends were emotional coping strategies implemented by individuals with cancer in the study by Jagannathan and Juvva and Manne et al.<sup>40,41</sup> Seibaek et al. also noted that discussing cancer with relatives, colleagues, and neighbors enabled women to understand their diagnosis on a deeper level.<sup>42</sup> Each participant also mentioned the significance of communicating their stories to other women younger and older to encourage others to seek medical attention when a concern arises.

### **Psychological Impact**

The psychological impact of the diagnosis of cancer and hospital readmission included feelings of stress, anxiety, fear, annoyance, regret, and anger. Grob et al. identified fear of death as a common psychological response for women newly diagnosed with gynecological cancer.<sup>43</sup> While the study by Vargas et al. reported the presence of negative emotions correlated with anxiety and depression.<sup>29</sup> The article by Jagannathan and Juvva stated that sadness, fear, anxiety, and anger among the most common psychological responses to a diagnosis of cancer.<sup>40</sup> Some participants reported feeling angry with themselves for not following medical guidelines for annual women's health visits, not seeking medical attention sooner, and anger toward various healthcare providers regarding communication and professionalism. Stress, anxiety, and fear were identified in some fashion by all participants in the study. Seibaek et al. and Raphaelis et al. documented that anxiety was prevalent among women with gynecological cancer.<sup>37,42</sup> Two participants reported annoyance with different healthcare providers because of an almost performed unnecessary procedure or delayed medical treatment.

### **Strengths and Limitations**

A strength of this study is that it is one of the first studies to define QoL from the perspective of women with newly diagnosed gynecological cancer following surgical intervention and hospital readmission. Limitations to this study include the impact of the Covid-19 pandemic on the frequency of gynecological surgeries and the implementation of hospital visitor restrictions. The data collection occurred at a single inner-city hospital with elevated numbers of Covid-19 patients resulting in the rescheduling, delaying, cancelling, or moving of surgeries to other facilities with fewer Covid-19 patients. An additional limitation of the study was the small sample size of participants stemming from the medical center protocol during the pandemic with some individuals seeking medical care at other facilities.

### **Implications for Clinical Practice**

The findings of this study may inform recommendations for healthcare leaders and practitioners to address QoL factors for women with gynecological cancer. To address the issues identified in this study, consultation with physical therapy before and after surgery to address functional deficits in mobility, assess ability to perform household activities, and implement treatment programs to increase propensity for safe mobility and discharge is warranted. Additionally, implementing early mobility protocols following surgery may lead to improved mobility at discharge. Addressing potential physical limitations with patients through communication with gynecological-oncology nurses or nurse practitioners may decrease the physical impact. Implementing an inpatient program for patients to discuss their cancer diagnosis with psychologists and implementing healthcare provider training to increase availability and confidence to discuss health concerns with patients/families/caregivers may aid in addressing the psychological impact. Finally, to address insufficient communication, healthcare organizations should develop and implement communication courses for healthcare providers to increase the propensity of patients discussing their cancer diagnosis and needs. Healthcare organizations should develop and issue potential support group information upon discharge along with specific discharge instructions pertaining to individual or similar diagnoses. Future studies may include a larger sample size, multiple facility involvement, and various gynecologic-oncology surgeons to increase the validity of this study and to ensure that data saturation was achieved. Other qualitative studies might include participants with different cancer diagnoses following surgical intervention and hospital readmission that may result in the identification of additional QoL factors.

## **CONCLUSION**

Through the identification of QoL, the impacted physical and psychological factors, and the factors contributing to hospital readmission for women with gynecological cancer following surgical intervention, healthcare professionals can begin to develop and implement programs that will minimize hospital readmission by addressing QoL. Healthcare professionals may not be able to eliminate all hospital readmissions resulting from factors associated with QoL; however, understanding how QoL is impacted for women with gynecological cancer will help address the needs of this population. Ultimately, newly formed inpatient programs to address limitations in mobility and inability to perform household activities may result in decreased hospital readmission for women with gynecological cancer following surgical intervention.

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