Background

Women diagnosed with gynecologic cancer are at risk for depression, anxiety and reduced quality of life (QoL) [1-4]. QoL is an important component of assessing the effects of surgery, radiation, and chemotherapy [5]. In addition to clinical variables, QoL in cancer patients undergoing treatment is affected by demographic variables, socio-economic status, social characteristics and personal expectations [6,7]. Pretreatment factors have been found to influence QoL in patients undergoing radiation therapy [8]. Significant differences in QoL were found as a function of age, race, Karnofsky Performance Status (KPS), income level and employment status [8]. Pretreatment Functional Assessment of Cancer Therapy (FACT-G) scores were higher in patients who were older, white, had higher KPS scores, were married, had a higher income and were college graduates. Gender and primary site of disease did not have an effect. Arredondo et al. examined QoL in men with prostate cancer and found men with more comorbidities had significantly worse scores at baseline in the physical domains [9].

Pretreatment characteristics may affect patients' reaction to their illness and treatment and thus influence disease specific QoL scores measured during treatment. The role these baseline characteristics play in women's ability to maintain good QoL following diagnosis and during treatment may therefore affect assessment of treatment and become a factor in determining which treatments are selected. A health status questionnaire was used to capture the effect of general physical and mental health as extensive personal information was not available on these women. The SF-36 was selected as it provides a measure of the health burden of chronic disease and other medical conditions that the women may have [10]. Baseline, pre-operative, data from longitudinal studies of women with endometrial or ovarian cancer [11,12] were analyzed to determine the degree to which QoL, measured with a disease specific questionnaire, is affected by baseline differences in demographic variables, and physical and mental health measured with the SF-36. At the time these data were obtained, women were unaware of their ultimate diagnosis and/or stage of disease. Women with an adnexal mass determined at surgery to be benign were included to control for the effect of cancer.

Methods

This prospective study was conducted at two gynecologic oncology offices located in Northeastern Ohio. Consecutive patients requiring surgery for a pelvic mass or a positive endometrial biopsy (endometrial cancer) were enrolled in a longitudinal assessment of QoL study at their pre-operative visit between January 2001 and July 2004.

Questionnaires (described below) were completed at the initial office visit following informed consent to participate in this IRB approved study. Baseline demographics were ascertained by interview with a research assistant. Private office records were reviewed to obtain height, weight and diagnosis following surgery. Body mass index (BMI) was calculated (defined as weight (kg) divided by height (m^2) for each woman) and categorized as normal weight (18.5–24.9), overweight (25–29.9) or obese (BMI ≥ 30) [13]. Smoking was quantified in pack years, a method used to measure the amount a person has smoked over a long period of time. It is calculated by multiplying the number of packs of cigarettes smoked per day by the number of years the person has smoked [14].

General health status was measured with the Short Form Medical Outcomes Survey (SF-36), a comprehensive survey designed to measure physical and mental health [10]. There are 8 subscales, summarized into physical and mental composite scores. Subjects are asked if their health limits activities during a regular day (from vigorous activities to bathing or dressing), if they have problems with work or other activities due to physical health or emotional problems, how they have been feeling emotionally during the last 4 weeks, if they have pain and how they rate their health. The SF-36 is a widely used, reliable and validated instrument with population specific norms that can be used to evaluate the burden of different diseases and treatments. The questionnaire was used in this study to assess patients' baseline level of physical and mental health.

QoL was measured with the Functional Assessment of Cancer Therapy (FACT-G), a 27 item core questionnaire evaluating physical, functional, social and emotional well-being within the previous 7 days [15]. While some questions are similar to those asked on the SF-36, most questions are specific to cancer and its treatment. For example, both instruments ask if the patient has pain, and if they are full of pep (SF-36) or have a lack of energy (FACT-G), however, the FACT-G was developed specifically to include items that are affected by the diagnosis of cancer and its treatment. Items are summed to give scores for each domain. All domains are scored so that a higher score indicates higher QoL [16]. The FACT-G is a reliable and validated instrument for measuring QoL in cancer patients, including the elderly [15,16].

In addition to analyzing the four domain scores, five questions were selected a priori for analysis to determine the distribution of responses (not at all to very much). Two questions not directly related to treatment were selected from the physical well-being domain, and one question each from the social, emotional and functional well-being domains. The questions addressed level of energy, pain, support from family, feeling nervous and ability to enjoy