patients are seen by a gynaecologist and management issues referred to the MD team (gynaecologists, BC surgeons, oncologists, endocrinologists, psychiatrist, clinical psychologist and family practitioners) who meet monthly to develop menopause management plan. Data are collected using standardised techniques on menopause symptoms, sexual activity, functional assessment of cancer therapy, and quality of life (QOL).

**Results:** 720 women were referred to the MSAC clinic (January 2003-December 2008), with 81% BC patients. The most common 'severe' symptoms included hot flashes (40%), night sweats (35%) and loss of interest in sex (30%). Nearly half (42%) of all patients were premenopausal at diagnosis, 37% were previous HRT users and 22% were taking HRT at the time of BC diagnosis.

A written and web based information resource on menopausal symptoms after breast cancer has been developed to assist women with quality of life issues. The resource was highly rated by patients and is now nationally distributed in Australia through the National Breast and Ovarian Cancer Foundation [10].

**Conclusions:** Menopausal symptoms are a common and distressing symptom of breast cancer treatment. MD care and targeted information resources help address the gap in clinical services for these women.

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**514** Poster

**Diurnal cortisol rhythm as a predictor of breast cancer survival**

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**Background:** Abnormal circadian rhythms have been observed in patients with cancer, but the prognostic value of such alterations has not been confirmed. We examined the association between diurnal variation of salivary cortisol in patients with metastatic breast cancer and subsequent survival. We explored relationships between cortisol rhythms, circulating natural killer (NK) cell counts and activity, prognostic indicators, medical treatment, and psychosocial variables.

**Methods:** Salivary cortisol levels of 104 patients with metastatic breast cancer were assessed at study entry at 0800, 1200, 1700, and 2100 hours on each of 3 consecutive days, and the slope of diurnal cortisol variation was calculated using a regression of log-transformed cortisol concentrations on sample collection time. NK cell numbers were measured by flow cytometry, and NK cell activity was measured by the chromium release assay. The survival analysis was conducted by the Cox proportional hazards regression model with two-sided statistical testing.

**Results:** Cortisol slope predicted subsequent survival up to 7 years later. Earlier mortality occurred among patients with relatively "flat" rhythms, indicating a lack of normal diurnal variation (Cox proportional hazards, P = 0.0036). Patients with chest metastases, as opposed to those with visceral or bone metastases, had more rhythmic cortisol profiles. Flattened profiles were linked with low counts and suppressed activity of NK cells. After adjustment for each of these and other factors, the cortisol slope remained a statistically significant, independent predictor of survival time. NK cell count emerged as a secondary predictor of survival.

**Conclusions:** Patients with metastatic breast cancer whose diurnal cortisol rhythms were flattened or abnormal had earlier mortality. Suppression of NK cell count and NK function may be a mediator or a marker of more rapid disease progression.

**515** Poster

**Cognitive behavioral therapy and physical exercise for climacteric symptoms in breast cancer patients experiencing treatment-induced menopause**

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**Background:** Premature menopause is a major concern of younger women undergoing adjuvant therapy for breast cancer. Hormone replacement therapy is contraindicated; non-hormonal medications show side-effects. There is growing evidence that cognitive behavioral therapy and physical exercise can have a positive impact on symptoms in naturally occurring menopause. The purpose of this clinical trial is to evaluate the efficacy of cognitive behavioural therapy (CBT) (A), physical exercise (B), or the combination of these interventions (AB) in alleviating menopausal symptoms, improving sexual functioning and enhancing quality of life.

**Material and Methods:** In this multicenter study, a minimum of 325 eligible women are being randomised to group A, B, AB or a 'waiting list' control group. For group A, the intervention consists of 6 weekly group CBT sessions of 1.5 hours and a booster session. For group B, the intervention is an individually tailored, 12 week home-based physical exercise program of 2.5−3 hours per week. Group AB receives both the CBT and exercise program. Questionnaires assessing menopausal symptoms, sexuality, body- and self-image, psychological distress and quality of life are being completed at baseline, at 12 weeks and at 6 months follow-up.

**Results:** As of November 2009, 2688 women have been identified as being potentially eligible for study participation, of whom 1514 completed a screening questionnaire and 662 a postcard indicating they had no interest in the study. 627 of the screened women met eligiblity criteria and received a baseline questionnaire. To date, 422 women have returned this questionnaire and have been been randomly allocated to the CBT group, (n = 109), the physical exercise group (n = 104), the combined intervention group (n = 106), or the control group (n = 103). Problems have been experienced in retaining patients in the trial, with dropouts occuring primarily between randomization and start of the intervention. The majority of those who actually participate in the interventions are able to comply with the program. Data collection will continue until mid-2010.

**Conclusions:** Cognitive behavioral therapy and physical exercise are potentially useful treatments for women with breast cancer who experience treatment-induced, premature menopause. In this conference, the content of the interventions, flow of participants throughout the trial, reasons for dropout and initial experiences with the interventions will be presented.

**516** Poster

**Three year experience of a breast cancer family history clinic in a district general hospital in the United Kingdom**

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**Background:** The National Institute of Clinical excellence (NICE) in the United Kingdom issued guidance for the management of women with a family history of breast cancer in 2004 and these were updated in 2006. This led to the setting up of a dedicated family history clinic in this District General Hospital. The three year experience form this risk assessment clinic is presented here.

**Methods:** The Family History Clinic was set with a research grant. Asymptomatic women with a family history of breast cancer and women with a family history of breast cancer seen in the symptomatic breast clinics were referred into this clinic. All women completed a detailed family history questionnaire and a family pedigree chart was created with the gathered information and using the Progeny software. Using the NICE guidelines, these women were then grouped into near population risk, raised risk or high risk groups and were managed accordingly.

**Results:** Between Sept 2006 and Aug 2009, 962 women were seen in the clinic. Of these, 244 (25.4%) women were identified to be at near population risk, 327 (34%) raised and 391 (40.6%) were at high risk. All near population risk women and raised risk women over the age of 50 years (298, 31%) were discharged from this clinic. Women between the ages of 40−49 (189; 19.6%) and at raised risk were advised yearly surveillance. Of the 391 high risk women, 360 women consented to be referred to the Regional Genetics Service. Ten women have been identified with BRCA 1 or 2 mutations from this group. In addition, women were offered the opportunity to enter the IBIS II prevention and UKFOCSS Clinical Trials. Eight women entered the IBIS II prevention trial and three women entered the UKFOCSS trial.

**Conclusions:**

- The Family History Clinic provides a comprehensive service to women with familial breast cancer by one stop onsite consultation, clinical and radiological assessment and appropriate counselling.
- From this study, we have shown a high need for women to be seen in a dedicated clinic (i.e., 962 women).
- There are a group of women clearly at high risk who do require genetic counselling and testing.
- It includes a small group (ten) of women that have shown genetic mutation and now can be identified and managed correctly which includes offering risk reducing prophylactic surgery.