may render them susceptible to future health concerns. The Canadian Longitudinal Study on Aging (CLSA) is a large population-based cohort of >50,000 individuals between the ages of 45–85 and provides a distinct opportunity to evaluate the impact of psychosocial and functional factors on health outcomes. We sought to examine the prevalence and impact of frailty among community-dwelling older individuals with a history of gynecologic cancer.

Methods We performed a cross-sectional analysis of CLSA participants who self-identified as female. Frailty was operationalized using the deficit accumulation model (where frailty is defined as frailty index (FI) > 0.21). Associations were evaluated using multivariate regression analyses, adjusting for sociodemographic, lifestyle and social support factors.

Results Datapoints to measure frailty were available for 15,149 of 15,320 (98.8%) female participants. The prevalence of frailty was 19.9% in those with a history of gynecologic cancer compared to 9.1% in those without ($p<0.001$; OR 2.2, 95%CI 1.6–2.9). Gynecologic cancer survivors classified as frail were more likely to require assistance from family members (OR 3.4, 95%CI 2.0–5.7) and professional community supports (OR 7.9, 95%CI 4.2–15.0) than those who were not frail.

Conclusion/Implications In this large national prospective cohort study, frailty was found to affect approximately 20% of gynecologic cancer survivors. Further studies are required to evaluate the impact of frailty on oncologic outcomes and to elucidate strategies for early recognition and risk mitigation of frailty.

AS20. Symptom management/supportive cancer care

SO002/#460 A NOVEL ARTIFICIAL INTELLIGENCE ALGORISM TO EVALUATE THE QUALITY OF LIFE USING HEART RATE VARIABILITY

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Introduction Management of quality of life (QOL) is important for patients with cancer. The critical issue in evaluating QOL is the low adherence to recording patient reported outcomes (PROs). Heart rate variability (HRV), which is associated with the autonomic nervous system, is easily measured. This study aims to develop an artificial intelligence (AI) algorithm to evaluate QOL using HRV.

Methods 180 data from 50 patients and 50 data from 15 patients with gynecological cancer were used as test and validation datasets, respectively. HRV and PROs (EORTC qlq-C30, FACT-G, PHQ9, PRO-CTCAE) were collected daily and weekly, respectively. A binary AI classification model that generates SHAP values was developed to predict whether symptoms related to QOL were severe using HRV. A clustering model was developed by clustering the SHAP values into three groups using Parametric Umap. Serum metabolites that contribute to HRV variation were identified.

Results Clustering derived from HRV indicated high, middle, and low QOL groups (Group A, B, and C, respectively). The total score of FACT-G was 82.4, 72.7, and 67.3 for Group A, B, and C, respectively. The scores of fatigue and other symptoms were also worst in Group C and best in Group A. Metabolites in serum contributing to HRV variation are Arachidonic acid and Dopamine, which are associated with inflammation and depression.

Conclusion/Implications Monitoring QOL over time using HRV may allow us to detect early deterioration in QOL, such as side effects of chemotherapy.

AS05. Fertility/Pregnancy

SO003/#274 ATTITUDE OF BRCA1/2 MUTATION CARRIERS TOWARDS FERTILITY PRESERVATION, FAMILY PLANNING AND PREIMPLANTATION GENETIC TESTING (PGT) FOR THE NEXT-GENERATION PRIMARY PREVENTION OF BREAST AND OVARIAN CANCER

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Introduction BRCA1/2 mutation carriers encounter many dilemmas during their life such as when to undergo risk reduction surgeries, how to plan their family, whether to undergo fertility preservation and whether to perform preimplantation genetic testing (PGT) for the selection of non-carrier embryos.

Methods This cross-sectional study was conducted by the distribution of an anonymous questionnaire intended for BRCA1/2 carriers, from August 2022 to January 2023.

Results The questionnaire was completed by 530 BRCA1/2 mutation carriers. The mean (SD) age at mutation detection was 36.4 (9.6) years. At the time of mutation detection, 40% did not have children. Risk reduction bilateral salpingo-oophorectomy (RRBSO) was discussed with 91% of patients and performed in 53%. Following mutation detection, 37% of responders changed their family planning, mostly choosing to have children earlier or to have less children than planned. 28% of BRCA carriers discussed the option of fertility preservation with a physician and 11% underwent oocyte/embryo vitrification before RRBSO. 44% of BRCA carriers discussed the option of PGT and 8% underwent PGT to select non-carrier embryos. In a multivariate analysis, age under 35 years and the a priori need for fertility treatments were both found significant factors increasing the likelihood of performing fertility preservation and PGT.

Conclusion/Implications This study emphasizes that despite high rates of RRBSO performance and a substantial proportion of women admitting that mutation detection affected their family planning, performance of fertility preservation and PGT remained exceedingly low. Increasing the knowledge and awareness of these issues is important and should be included in multidisciplinary counselling.