Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

role: Puma Biotechnology; Honoraria (self), Speaker: Pierre Fabre, Novartis, Myriad Genetics; Honoraria (self), Travel fees: MSD Oncology, AstraZeneca, Novartis, Pfizer; Research grant/Funding (institution), Clinical trial: Pfizer, Puma, Merus, Novartis, AstraZeneca; Non-remunerated activity/ies, ESMO membership: ESMO. P.H. Cottu: Honoraria (self): Pfizer, Novartis, Roche, AstraZeneca, NanoString Technologies; Advisory/Consultancy: Pfizer, Novartis, Genentech, Context Therapeutics; Research grant/Funding (institution): Novartis, Pfizer; Travel/Accommodation/Expenses: Roche, Novartis, Pfizer, Eli Lilly. All other authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2020.08.356

236P Changes in eating habits and food preferences in breast cancer patients undergoing adjuvant chemotherapy: The "CHANGE" prospective study

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Background: Food habits change in early breast cancer (EBC) patients (pts) during chemotherapy has been poorly studied in literature. Primary aim of this study was to evaluate food preferences and consumption of EBC pts before and after adjuvant chemotherapy.

Methods: We conducted a prospective cohort study at Medical Oncology Unit and Breast Unit of ASST Spedali Civili of Brescia (Italy). From April 2014 to June 2018 205 EBC pts were enrolled and interviewed by a dietician to assess quantity and frequency of several foods, soft drinks and alcoholic beverages intake. Additional 205 EBC patients, who were not interviewed by the dietitian, were selected as control group.

Results: A statistically significant reduction of the following foods and beverage was reported after chemotherapy: pasta or rice ($p=0.009$), bread ($p<0.0001$), breadsticks/crackers ($p<0.0001$), red meat ($p<0.0001$), fat salami ($p<0.0001$), lean salami ($p<0.0001$), fresh cheese ($p=0.039$), aged cheese ($p=0.011$), yogurt ($p=0.022$), sugar ($p<0.0001$), soft drinks ($p=0.003$), alcoholic beverages such as wine ($p<0.0001$), beer ($p<0.0001$), schnapps ($p<0.001$), and condiments such as oil ($p=0.029$) and butter (0.014). Conversely, fruit consumption consistently increased ($p<0.0001$). As a consequence of these food habits changes body weight did not increase, despite reduction in physical activity. Body weight remained stable also in the control group, indirectly suggesting that food habit variation was not influenced by the dietician.

Conclusions: This prospective study shows that EBC patients tend to adopt "healthier dietary patterns" during adjuvant chemotherapy leading to a non-change in body weight, despite reduction of physical activity.

Clinical trial identification: NCT03210441.

Legal entity responsible for the study: Alfredo Berruti.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2020.08.357

237P Breast cancer risk in patients with polycystic ovary syndrome: A Mendelian randomization analysis

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Background: The association between polycystic ovary syndrome (PCOS) and breast cancer remains inconclusive. Conventional observational studies are susceptible to inverse causality and potential confounders. With a Mendelian randomization (MR) approach, we aimed to investigate the causal relationship between genetically predicted PCOS and breast cancer risk.

Methods: Our study included 11 PCOS-associated single nucleotide polymorphisms as instrumental variables identified by the latest genome-wide association study. Individual-level genetic summary data of participants were obtained from the Breast Cancer Association Consortium, with a total of 122 977 cases and 105 974 controls. The Inverse-weighted method was applied to estimate the causality between genetically predicted PCOS and breast cancer risk. To further evaluate the pleiotropy, the weighted median and MR-Egger regression method were implemented as well.

Results: Our study demonstrated that genetically predicted PCOS was causally associated with an increased risk of overall breast cancer (odds ratio (OR) = 1.07; 95% confidence interval (CI) = 1.02-1.12, p = 0.005). The subgroup analyses according to immunohistochemical type further illustrated that genetically predicted PCOS was associated with an increased risk of estrogen receptor (ER)-positive breast cancer (OR = 1.09; 95% CI = 1.03-1.15, p = 0.002), while no causality was observed for ER-negative breast cancer (OR = 1.02; 95% CI = 0.96-1.09, p = 0.463). Additionally, no horizontal pleiotropy was found in our study.

Conclusions: Our findings indicated that PCOS was likely to be a causal factor in the development of ER-positive breast cancer, providing a better understanding for the etiology of breast cancer and the prevention of breast cancer.

Legal entity responsible for the study: Jianxing He.

Funding: National Key R&D Program of China; China National Science Foundation; Key Project of Guangzhou Scientific Research Project; High-level university construction project of Guangzhou Medical University; IVATS National key R&D Program; Application, industrialization and generalization of surgical incision protector.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2020.08.358

238P Beneficial effects of exercise in oncology - MoviS: 'Movement and Health Beyond Care'

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Background: MoviS: 'Movement and Health Beyond Care' is a 3-year randomized controlled trial aiming to educate cancer patients after adjuvant therapy on the benefits of personalized physical activity (PA) and a proper nutritional plan.

Methods: In this project, breast cancer (BC) patients who consent to participate will be randomized to Interventional Arm (A), consisting of 3-months of Movis Training, or Control Arm (B), consisting of standard care with no supervised PA. The Movis Training consists of 3-months of aerobic training (2 d/week of supervised training and 1 d/week of unsupervised exercise) with an increase in exercise intensity (40-70% Heart Rate Reserve) and duration (20-60 min). Ad interim analyses every 3-months up to 1-year will be included. The first cohort of eligible BC survivors were enrolled in January 2020 and carried out the Movis Training even during the COVID-19 pandemic. The primary outcome is improvement of Quality of Life (QoL) assessed by European Organization for Research and Treatment of Cancer QoL (EORTC QLQ-C30). The secondary outcomes are improvement of health-related QoL parameters such as: PA level (International Physical Activity Questionnaire; SenseWear Armband), fitness (VO2max), flexibility, strength, psychological well-being (Psychological distress Inventory; Profile of Mood States and diet habit (DianaWeb, MEDIET modified and recall 24h); Anthropometric measurement, Body mass (kg); BMI (kg/m2); body composition.

Results: The expected improvement (mean $\pm$ SD) of the QoL in Arm A at 3-months is 15.1 ± 17.7, while in Arm B is 6.1 ± 17.1 (Cohen d effect size=0.51, medium effect). Using a t test for independent samples, with 0.05 alpha and 0.80 1-beta will require 60 subjects per group. Considering an expected drop-out of 30%, a total of 172 patients will be recruited.

Conclusions: The targeted exercise oncology through multidisciplinary team would like to provide a coordinated program of cancer care to improve health care quality, improve prognosis, increase survival times and QoL and reduce the risk of BC recurrence.

Table 237P: Mendelian randomization estimates of the causality between PCOS and breast cancer.

Outcome	IVW method		MR-Egger		Weighted median method	
	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Breast cancer overall	1.0667 (1.0200, 1.1155)	0.0047	1.0450 (0.8351, 1.3077)	0.7093	1.0742 (1.0226, 1.1283)	0.0043
ER-positive breast cancer	1.0881 (1.0318, 1.1474)	0.0018	1.0901 (0.8352, 1.4227)	0.5414	1.0992 (1.0346, 1.1678)	0.0022
ER-negative breast cancer	1.0242 (0.9609, 1.0917)	0.4628	0.8817 (0.6507, 1.1947)	0.4376	1.0063 (0.9275, 1.0919)	0.8793

Legal entity responsible for the study: Elena Barbieri.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2020.08.359

239P Impact of clinical characteristics, patients' perception of treatment goals and endocrine therapy history on HRQOL in HR+, HER2- early stage breast cancer patients

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Background: Among patients [pts] with early-stage HR+, HER2- breast cancer [BC], this study aimed to measure associations of clinical characteristics, pts' perception of treatment [tx] goals and endocrine therapy [ET] history on pts' health-related quality of life [HRQoL].

Methods: A multinational (France, Germany, Italy, Spain, UK, Japan and US) survey of pts diagnosed [dx] with stage I-III HR+, HER2- BC was conducted from June to October 2019. Pts identified by their physician were invited to complete a pen and paper questionnaire that included the FACT-G and questions on awareness of tx goals. Four separate multivariable linear regression analysis were conducted to measure the association between patients' clinical characteristics and ET history on each of the 4 FACT-G domain scores: Physical Wellbeing [PWB], Social/Family Wellbeing [SWB], Emotional Wellbeing [EWB] and Functional Wellbeing [FWB]. Regression coefficients are reported where p values <0.05. A positive coefficient implies higher HRQoL.

Results: 1152 pts were recruited by 320 physicians. PWB (n=1030) score was impacted if pts completed ET $\leq$6 months and $>$6 months before data collection (+2.87, +3.16), if BC dx Stage IIIA or IIIB/C (-2.32 and -2.38) and if pts felt goal of their tx was to stop BC from progressing (-3.00). SWB (n=1029) score was impacted if pt currently receiving tamoxifen (+2.02), if BC dx Stage IIIB/C (-2.69) and if pts felt goal of their tx was to prevent BC returning after surgery (+1.19). EWB (n=1033) score was impacted by time since dx (+0.001), if BC dx Stage IIIB/C (-1.87), or if pts felt goal of their tx was to stop BC from progressing (-2.94). FWB (n=1034) score was impacted if pts were older (-0.10), by time since dx (+0.002), if pre/peri-menopausal (-1.76), if BC dx Stage IIA, IIIA or IIIB/C (-2.18, -3.09, -4.07), if pts felt goal of their tx was to stop BC from progressing (-2.65) or increase length of life (-1.16).

Conclusions: The 4 FACT-G HRQoL domain scores were impacted by stage of BC at diagnosis, ET history and pt perception of tx goals. This suggests that earlier diagnosis and positive reinforcement of tx goals could have a positive impact on HRQoL.

Legal entity responsible for the study: Adelphi Real World.

Funding: Eli Lilly and Company.

Disclosure: R. Williams: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. J. Brown: Shareholder/Stockholder/Stock options, Full/Part-time employment: Eli Lilly and Company. A. Rider: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. R. Wild: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. E. Clayton: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. M. Method: Shareholder/Stockholder/Stock options, Full/Part-time employment: Eli Lilly and Company.

https://doi.org/10.1016/j.annonc.2020.08.360

240P A multinational real-world study on HR+, HER2- early stage breast cancer patients' disease awareness, satisfaction, and involvement in treatment decisions

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Background: Among patients [pts] diagnosed with early-stage HR+, HER2- breast cancer (BC), this study aimed to describe awareness, information sources, satisfaction and degree of involvement in treatment decisions.

Methods: A multinational (France, Germany, Italy, Spain, UK, Japan and US) survey of pts diagnosed with stage I-III HR+, HER2- BC was conducted from June to October 2019. Pts identified by their physician were invited to complete a pen and paper questionnaire with questions on awareness of 4 aspects of their BC (stage, nodal status, HER2 and HR status), information sources used, satisfaction, and involvement in treatment decisions for their BC.

Results: 1152 pts completed the questionnaire (mean age 59 years; 33% with degreed education; 31% pre/peri-menopausal and 1% male; Stage at diagnosis: I 30%, II 48%, III 22%). UK pts were most aware of all 4 aspects of their BC (58%), Italian (18%) and Japanese (20%) pts the least aware. Pts reporting being actively involved in treatment decisions was highest in Germany (68%) and least in Spain (30%). Awareness of all 4 aspects of their BC was highest among pts with degreed education (48%), with 63% reporting active involvement in treatment decisions; and lowest amongst those with no degreed education (30%), with 47% reporting active involvement. Pre/peri-menopausal pts were most aware of all 4 aspects of their BC (46%) (post-menopausal pts (31%). 90% of all pts cited their doctor as an information source. The second most common source was the internet amongst pre/peri-menopausal pts (57%) and family/friends for post-menopausal pt (39%). 71% who very much agree with the statement 'I am satisfied with how well I am coping with my illness' feel they are actively involved in treatment decisions compared to 44% of who do not agree at all with the statement.

Conclusions: A high proportion of pts satisfied with how they were coping with their illness were actively involved in their treatment decisions. Knowledge and involvement were highest in pts with degreed education and amongst pre/peri-menopausal pts, suggesting there may be a need to raise knowledge and awareness in older pts or those without a degreed education.

Legal entity responsible for the study: Adelphi Real World.

Funding: Eli Lilly and Company.

Disclosure: A. Rider: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. M. Method: Shareholder/Stockholder/Stock options, Full/Part-time employment: Eli Lilly and Company. R. Williams: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. J. Piercy: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. E. Clayton: Honoraria (institution), Eli Lilly have paid Adelphi Real World a fee for conducting this research and drafting this abstract: Eli Lilly and Company. J. Brown: Shareholder/Stockholder/Stock options, Full/Part-time employment: Eli Lilly and Company.

https://doi.org/10.1016/j.annonc.2020.08.361

241P Germline genetic features of Chinese patients with breast cancer

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Background: Breast cancer, the most common malignancy in females, has an estimated 5-10% hereditary predisposition. The field of germline genetic testing for breast cancer risk has evolved substantially in the last decade. However, there is still lack of germline genetic profiles for breast cancer in the Chinese population.

Methods: The study included 1235 Chinese patients with breast cancer. Germline DNA samples were sequenced using a next-generation sequencing (NGS) multi-gene panel. The primary outcome was identification of a pathogenic germline mutation.

Results: Of 1235 subjects who underwent clinical germline sequencing, 100 (8.1%) had pathogenic germline mutations and 419 (33.9%) had variants of uncertain significance. 60 (4.9%) subjects who had pathogenic germline mutations were less than 50 years old. BRCA1 mutations were identified in 44 (3.6%) subjects and 34 (2.8%) had BRCA2 mutations; 19 (1.5%) subjects had germline mutations related to homologous recombination repair (HRR) (4 with mutations in BRAD1, 4 with mutations in CHEK2, 4 with mutations in PALB2, 2 had mutations in ATM, 2 had mutations in BLM, 2 had mutations in BTIP1, 1 had a mutation in FANCA); 2 (0.2%) had mutations related to lynch syndrome (both with mutation in MSH6); 4 had other germline mutations (CDKN2A, FLCN, SDHA, SDHC).

Conclusions: In Chinese breast cancer patients, nearly 1 in 10 individuals had germline mutations, mainly in BRCA1/2 and HRR related genes.

Legal entity responsible for the study: Zhujiang hospital.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2020.08.362

242P Reclassification of variants of unknown significance in BRCA 1/2 genes for the improvement of care quality in oncological genetic council units

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Background: The detection and correct interpretation of a mutation as a variant of unknown significance (VUS) is one of the most challenging points in genetic council units (GCU). In the context of hereditary breast and ovarian cancer syndrome (HBOC),