10528 **Poster Session**

Breast cancer: Global patterns of incidence, mortality, and trends.

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Background: The global burden of cancer incidence and mortality including that of female breast cancer continues to increase largely because of the growth and aging of the population and adoption of western lifestyle behaviors that increase cancer risk. In this study, we summarize the current burden, trends, and survivorship of female breast cancer that account for nearly 12% of the cancer burden worldwide. **Methods:** Estimates of incidence and mortality in the year 2020 were obtained from Global Cancer Observatory (GLOBOCAN) database. GLOBOCAN provides country-specific estimates of cancer incidence, mortality, and prevalence for 185 countries or territories and 36 cancer types by age group and sex. For US rates, data from Surveillance, Epidemiology, and End Results (SEER) program were assessed. Rates are age-standardized (ASRs) (per 100,000 person-years) using the 1966 Segi-Doll World Standard Population. Geographic variability was assessed using 20 predefined world regions, and the 4-tier Human Development Index (HDI). Finally, we provide a prediction of the future burden of female breast cancer in 2040 based on demographic projections. **Results:** Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death in females worldwide, with an estimated 2.3 million new cancer cases (1 in 4 new cancer cases) and 685,000 cancer deaths (1 in 6 deaths) in 2020. Breast cancer incidence rates varied by nearly 4-fold across WHO areas. The highest incidence rates (per 100,000) were found in Australia/New Zealand (95.5), Western Europe (90.7), and Northern America (89.4), while the lowest rates were in South-Central Asia (26.2), Middle and Eastern Africa (33), and Central America (39.5). In contrast, the highest breast cancer mortality rates were recorded in Melanesia (37.5), Polynesia and Western Africa (22.3), and the Caribbean (18.9), while the lowest rates were found in Eastern Asia (9.8), Central America (10.4), and Australia/New Zealand (12.1), a 2.8-fold difference. In the United States, the age-standardized breast cancer incidence rate (per 100,000) increased from 106 (1975) to 142 (1999), decreased to 128 (2004), and then slowly increased to 137 (per 100,000) in 2019. Similar broad temporal trend patterns were observed in other western countries. Incidence rates are rising in South America, Africa, and Asia where rates were historically low. Worldwide, an estimated 2,964,197 new female breast cancer cases are projected to occur in 2040, a 31% increase from the corresponding 2,260,127 cases in 2020. **Conclusions:** There is significant variation in female breast cancer incidence and mortality rates worldwide. Breast cancer incidence is increasing at different rates in various regions of the world. Mortality rates in many high HDI countries have been on the decline, in contrast to increasing rates in low HDI countries. This study also shows a substantial increase in new breast cancer diagnoses over the next two decades. Research Sponsor: None.