Introduction Previous studies have shown higher breast cancer incidence and mortality among Japanese Brazilians than Japanese. To clarify the difference in hormone levels among populations, we compared postmenopausal endogenous sex hormone levels among Japanese living in Japan, Japanese Brazilians living in São Paulo, and non-Japanese Brazilians living in São Paulo.

Methods A cross-sectional study was conducted using a control group of case-control studies in Nagano, Japan and São Paulo, Brazil. Subjects were postmenopausal women aged over 55 years old who provided blood samples. We measured oestradiol, oestrone, androstenedione, dehydroepiandrosterone sulphate (DHEAS), testosterone and free testosterone by radioimmunoassay, bioavailable oestradiol by the ammonium sulphate precipitation method, and sex-hormone binding globulin (SHBG) by immunoradiometric assay. A total of 363 women were included for the present analyses: 185 Japanese, 44 Japanese Brazilians and 134 non-Japanese Brazilians.

Results Japanese Brazilians had significantly higher levels of oestradiol, bioavailable oestradiol, oestrone, testosterone, and free testosterone, and lower SHBG levels than Japanese. Japanese Brazilians also had significantly higher levels of bioavailable oestradiol, oestrone, and DHEAS, and lower levels of SHBG and androstenedione than non-Japanese Brazilians. Levels of oestradiol, testosterone, and free testosterone, however, did not differ between Japanese Brazilians and non-Japanese Brazilians. These differences were observed even after adjustment for known breast cancer risk factors.

Conclusions We found higher levels of oestrogens and androgens in Japanese Brazilians than in Japanese, and similar to or higher levels than in non-Japanese Brazilians. Our findings may help explain the increase in incidence and mortality of breast cancer among Japanese Brazilians.

Conclusions Patients with lung cancer have an increase in reporting of symptoms to the GP which occurs about 9 months before they are diagnosed. Future work will aim to develop these results into a predictive score to allow earlier diagnosis of lung cancer.