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Raising awareness of lifestyle factors as an important part of a person's risk of breast cancer

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Background: All cancers begin in cells. Our bodies are made up of more than a hundred million million (100,000,000,000,000) cells. Cancer starts with changes in one cell or a small group of cells. Usually we have just the right number of each type of cell. This is because cells produce signals to control how much and how often the cells divide. If any of these signals are faulty or missing, cells may start to grow and multiply too much and form a lump called a tumour. Where the cancer starts is called the primary tumour. As far as breast cancer is concerned it is estimated that about 30% of breast cancer cases could be prevented through changes in lifestyle but high breast cancer mortality has been attributed to lack of public awareness, which leads to late diagnoses. As little is known about the level of knowledge and awareness of breast cancer in Rwanda, this study was designed to explore it among women throughout the country.

Methods: We conducted a cross-sectional survey covering 122,058 females around five provinces of Rwanda, using in-person interviews based on a self-designed structured questionnaire. Student's t-test, Pearson's χ^2 test, reliability analysis, exploratory factor analysis, univariate and multivariate logistic regression analyses were performed in the statistical analysis.

Results: The results showed poor awareness of breast cancer among women aged 25–70 years in Rwanda. Only 18.6% of women were highly aware in the study, whereas 81.4% were poorly aware. Among all participants, family history of breast cancer was the best accepted risk factor for breast cancer (awareness rate 31.5%), followed by menarche at age before 12 (11.2%), no parity or late childbirth (13.9%), menopause at a late age (13.7%), high-fat diets (19.1%), long time drinking (19.5%) and long-term use of estrogen drugs (20.7%).

Conclusions: Our study indicates insufficient awareness of breast cancer among women in Rwanda, and an urgent need for health education programs on this subject because the earlier breast cancer is found, the better the chance of beating it.

Clinical and laboratory patterns during immune stimulation in hormone responsive metastatic breast cancer

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This study clarifies the relationship between clinical and laboratory patterns, in endocrine-responsive metastatic breast cancer patients treated with a cyclic beta-interferon-interleukin-2 sequence added to anti-estrogens. In 31 patients a regular laboratory and immunological assessment was made. During clinical benefit, as opposed to progression, a significant increase in the total number of lymphocytes, CD4+, CD8+, NK cells, CRP and IL-12 was confirmed. Also a significant CEA, TPA, CA15.3 decrease occurred 24-72 hours after interleukin-2 administration. At the progression both basally and after interleukin-2 stimulation, the mean values of CD4+CD25+ cells were more than twice higher than during clinical benefit, with a decrease of CD4+ plus CD8+ (T effector)/CD4+CD25+ (Treg) ratio. Moreover, a significant increase for CEA and for all 3 markers (standardized values) was found 24-72 hours after interleukin-2 administration. In patients who survived less than 5 years, the Treg cell increase occurred at a significantly shorter time interval than in those who survived longer than 5 years (20 vs. 45.5 months respectively; $p=0.001$). These data show laboratory evidence of the effect of immunotherapy as well as that hormone resistance occurs concomitantly with a laboratory pattern compatible with immune inhibition.