Population-based screening of at-risk women for hereditary breast and colorectal cancer in Brazil using a three-question questionnaire

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Background: Breast cancer and colorectal cancer are among the most common cancers in women in southeastern Brazil. In addition, about 10% of individuals with these neoplasms may belong to families with hereditary predisposition to cancer. Few data exist in Brazil on the population incidence of family groups of breast cancer and colorectal cancer and there is no policy of action for screening populations of low socioeconomic status by the Brazilian government health system - Sistema Único de Saúde (SUS). **Objectives:** This study aims to identify and characterize individuals at risk for hereditary syndromes predisposing to breast cancer and / or colorectal cancer in a population-based sample. Inclusion in the study was made through a three questions questionnaire about personal and familial history of cancer (Primary Screening Questionnaire - QRP). **Methods:** For the application of QRP was used prevention network existing in Barretos Cancer Hospital (fixed and mobile units). The QRP was applied to a sample group (population-based) of 20,000 women. **Results:** Among the 20,000 women who participated in the initial phase of the study, 3,121 (15.6%) had at least one affirmative answer on the 3-questions questionnaire, which had some personal history and / or familial history of cancer. From women who responded affirmatively 17.7% answered "yes" to the question of personal history of cancer before the age of 50 (Q1), 46%, 21% and 14.6% answered at least one "yes" with respect family history of breast, bowel and ovarian cancers, respectively, when considering an age at diagnosis less than 50 years. The third question of the questionnaire dealt with the presence of three or more relatives with cancer before the age of 50 (Q3), and 25.6% answered affirmatively. All women who responded affirmatively to at least one of the three questions QRP were invited to answer a Secondary Screening Questionnaire (QRS), which contains questions about the epidemiological data, and pedigree draw. For their application of QRS, we used three different approaches: in-person, by telephone or by letter. Two thousand and twenty women completed the QRS personally, by phone 1408 and 310 by letter, giving a total of 1,938 individuals included in this phase. An analysis of these cases showed that 465 (24%) pedigrees had at least one clinical criteria for a hereditary cancer predisposition syndrome. So, with a sensitivity and specificity of 94.4% and 74.3%, respectively, the PSQ was efficient at identifying individuals/families at risk for hereditary cancer. **Conclusion:** We created and validated an easy, simple and efficient tool for population-based identification of families who are at risk for Hereditary Cancer Predisposition Syndromes. The data generated allowed knowing our population and also to identify families / individuals at-risk for hereditary cancer predisposition syndromes and include them in cancer prevention/screening programs.