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The impact of consanguinity on breast cancer among Palestinian women

Naheel Herbawi Abu-Khalaf
Karma Clinic, Palestine

Consanguinity (marriage with 'blood relatives') is a deeply rooted social trend in the Middle East, West Asia and North Africa and in Palestine, it is particularly common because of social and economic factors. Such marriages carry the risk of promoting congenital and genetic disorders and raises concerns about the increased risk of genetic diseases such as cancer. The reasons behind the steep rise in breast cancer incidence in Palestine over the last 10 years are not known but the hypothesis being tested in this project is consanguinity contributes towards the increased incidence of breast cancer in Palestinian women. To test this hypothesis, two approaches were used. The first was a genetic analysis of *BRCA1* and *BRCA2* genes using DNA samples obtained from 31 women of Arab origin affected by breast (n=28) and ovarian cancer (n=3). All participants had a well-documented family history. Using denaturing high performance liquid chromatography, a novel *BRCA1* mutation (E1373X in exon 12) was initially identified in one of the patients affected with ovarian cancer. The same mutation was found in four of her family members, two sisters with breast/ovarian cancer, one with breast cancer and another healthy sister also possessed this mutation. The significance of the novel *BRCA1* mutation is not known and further studies are required to determine whether the incidence of this mutation and other *BRCA1/2* mutations is greater in patients where consanguineous marriages have taken place. The second approach employed a case-control study, the aim of which was to examine the possible effect of consanguinity on the risk of breast cancer. 155 breast cancer cases and 200 controls were obtained from two major cancer centers. A questionnaire that sought socio-demographic information, type of consanguinity, medical history and tumor grade was designed and evaluated. The study reveal that although the consanguinity rate is high in the Palestinian population, no significant difference exists between consanguinity in breast cancer and control groups. The number of individuals studies is however low and this conclusion needs to be tempered by the need to expand the number of individuals involved.

Biography

Naheel Herbawi Abu-Khalaf has completed her MPhil from Bradford University, UK, in 1986, in Medical Sciences and Clinical Oncology Unit and PhD from Institute of Cancer Therapeutics at Bradford University in 2016. She is the Director of Karma Clinic in Nablus, Palestine. She has published more than six papers in reputed journals in the field of Cancer. She is a Speaker and Head of session at the 8th Eurobean conference on Health Promotion and Education, Palestinian. She has experience in Breast Cancer. She has worked at the Italian Cooperation Office in Jerusalem, as a National Cancer Control Project Officer for West Bank & Gaza.

herb2heal@yahoo.com

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