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Early detection of ovarian cancer (*barca 1 & barca 2* mutation) risk prediction for low income country using data mining technology: Bangladesh

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Background: Ovarian cancer is the most lethal gynecological cancer which is increasing day by day in developing countries. More than 8 out of 10 (80%) ovarian cancers occur in women over the age of 50. Therefore, identification of genetic factors including mutations in the BRCA1 and BRCA2 gene (breast cancer gene) as well as others factors is very important in developing novel methods of ovarian cancer prevention.

Materials & Methods: This study was carried out in 521 cancer and non-cancer patients', data was collected from different diagnostic centres and data was pre-processed. Then a structured questionnaire was used containing details of ovarian cancer risk factors including age, menopause end age, problem during pregnancy, first sex age, any infection in genital area, affected by ovarian cancer, abortion, pregnancy, BMI, menopause after 50, food habit, obesity, excessive alcohol, late menopause, early menopause, hormone therapy, exercise, previous exposure to other sexually transmitted infections (STIs), marital status, genetic risk, outdoor activities and affected any cancer before based on the previous studies.

Results: After pre-processing, data was clustered using K-means clustering algorithm for identifying relevant and non-relevant data to ovarian cancer. Next significant frequent patterns were discovered using AprioriTid and Decision Tree algorithm. This ovarian cancer risk prediction system will be helpful in detection of a patient's predisposition to ovarian cancer. Specifically there was no work of ovarian cancer risk prediction system using data mining or statistical approaches.

Conclusions: Most of the Bangladeshi woman does not even know they have ovarian cancer and the majority of cases are diagnosed at late stages when cure is impossible. Therefore early prediction of ovarian cancer should play a pivotal role in the diagnosis process and for an effective preventive strategy.

Biography

Md Shariful Islam is studying BSc final year in Biotechnology and Genetic Engineering Department, Mawlana Bhashani Science and Technology University, Tangail-1902, Bangladesh. Currently, he is working on "bioinformatics based risk prediction analysis of cancer which is so much rare and initiative in worldwide for the risk prediction analysis of cancer".

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Notes:

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