

Estimating the High-risk population of Hereditary Breast and Ovarian Cancer (HBOC) based on personal and family history in Jodhpur: Reg No: 313

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ABSTRACT

Background: Breast cancer is the most common cancer among women worldwide and a leading cause of cancer-related deaths. In India, it accounts for over 14% of female cancers, with a rising incidence among younger women. Hereditary Breast and Ovarian Cancer (HBOC), primarily linked to BRCA1/2 mutations, significantly contributes to early-onset disease. **Aim:** This study aimed to estimate the lifetime risk of breast cancer among women in Jodhpur, Rajasthan, using the CanRisk tool, and to examine its associations with hereditary, reproductive, lifestyle, and sociodemographic factors. **Methodology:** A community-based cross-sectional study among 211 women (18–60 years) in Jodhpur used convenience sampling and a structured questionnaire. Lifetime breast cancer risk was estimated using the CanRisk tool, and data were analyzed with SPSS 23.0 using descriptive and inferential statistics. **Results:** Overall, 80.1% of women had a lifetime breast cancer risk $\geq 3.4\%$ (national average). Higher risk was seen in younger (≤ 30 years), premenopausal, nulliparous, and single women, as well as those with early menarche, higher BMI, PCOD, diabetes, or a family history of cancer. Age at first childbirth and menopause showed no significant association. **Conclusion:** The study shows a high prevalence of elevated breast cancer risk among women in Jodhpur. Integrating hereditary, reproductive, and metabolic factors through models like CanRisk can enhance early detection and prevention. Further studies should refine risk assessment and explore additional factors.

KEYWORDS

Breast cancer, Hereditary Breast and Ovarian Cancer (HBOC), CanRisk tool, Risk assessment, Family History