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# BREAST CANCER

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## Xenobiotic zinc as a biomarker for breast cancer: A meta-analysis study

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Different studies indicate some discrepancies regarding zinc (Zn) levels in various samples of breast cancer patients. Several researchers have shown blood and hair levels of Zn decrease in patients dealing with breast cancer while others have found the opposite. The present study analyzes the Zn level of breast tissue, plasma or serum and hair samples and its relationship with breast cancer using meta-analysis method. In the present meta-analysis of 31 articles, which are published in the years 1984 to 2015 selected by search in PubMed, Scopus and Google Scholar databases and information analyzed I<sup>2</sup> statistics were calculated to examine heterogeneity. The analysis was performed on 31 studies of including 1699 cases and 2009 controls participants. In the present study we observed significant statistical difference overall base on random effects model (SMD (95% CI): -0.78[-1.40, -0.16]; P=0.014). Data from 19 studies were the significant statistical difference between serum and plasma Zn concentration (SMD (95%CI): -1.61(-2.43, -0.79)). There was significant statistical difference between breast tissue and hair with Zn statuses (SMD (95%CI): 2.32(1.42, 3.21)) and (SMD (95%CI): -1.80 (-3.41, -0.20) respectively. It can be concluded that there is a significant relationship between Zn concentration and breast cancer risk.

**Conclusions:** This meta-analysis study provides evidence that the difference between Zn level in serum, hair and breast tissue among individuals with and without breast cancer is significant.

### Biography

Kourosh Sayehmiri has expertise in design and analysis of systematic review and meta-analysis studies in breast cancer. He also performs several research in field of risk factors of breast cancer, survival analysis of breast cancer patients using cox proportional hazard models and accelerated failure time models

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