Environmental Factors and Breast Cancer: Perceptions of New York State Teachers

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The objective of this study is to investigate knowledge and perceptions about breast cancer risk factors in a sample of New York State teachers and education support professionals (ESPs). Over 25 studies in the US and internationally have documented increased incidence of breast cancer amongst teachers; for example, invasive breast (Risk Ratio = 1.51) and in *situ* breast (Risk Ratio = 1.67), as identified in the California Teachers Study (CTS). Since the contribution of environmental factors to breast cancer risk remains unclear scientifically, we are particularly interested in examining the target group's knowledge and beliefs about their surroundings, and other socio-demographic variables associated with their attribution of breast cancer risk to environmental factors.

While knowledge and risk perception about breast cancer have not previously been studied in a population of teachers, there is a fair amount of inquiry into this topic with other populations. However, much of the existing breast cancer risk perception research has focused on understanding women's predisposition toward a specific activity, for example, mammography screening or genetic counseling, or on a quantitative assessment of one's own risk. Our study provides a unique opportunity to explore overall perceptions of risk factors, including an open-ended question on risk attribution placed at the beginning of the survey, which decreases possible priming effects from subsequent questions. Over the past two decades, there has been a shift in risk communication strategies towards a bottom-up approach, which involves all relevant parties, especially local communities, in the process of risk management and decision making.

1,114 detailed surveys were completed in this all-female sample with an average age of 45 years, composed of 63% teachers and 35% ESPs. Based on results from statistical analyses such as hierarchical multiple regression and binary logistic regression, it was found that people who perceive environmental health problems in their community or in their school building are more likely to attribute breast cancer risk to environmental factors. Knowledge about proximity of their living or work area to sites such as oil refineries, landfills, and power plants also predict to their attribution to environmental factors. Their beliefs in the consistency of information about breast cancer and the number of years they have lived in their community were also found to be positively related with environmental attribution. These findings suggest that there is a need to build into breast cancer risk communication efforts an understanding of individuals' perceptions of their local environment.

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