

### **Issue # 61: Associations Among Workplace Factors, Length of Sick Leave, Work Ability and Leisure Time Physical Activity in Working Breast Cancer Survivors**

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For millions of breast cancer (BC) survivors of working age in the U.S., sustained employment is a desired but often unattainable goal. Most BC survivors return to work one year post-treatment,<sup>1</sup> but remaining employed is yet another challenge, either due to prolonged ill health or to difficulty in meeting the demands of the job. Workplace factors are known to influence sick leave<sup>2,3</sup>, work ability,<sup>4</sup> and personal health behaviors such as regular leisure-time exercise. Exercise itself can reduce sickness absence<sup>5</sup> and improve work ability<sup>6</sup> in the general population and support return to work (RTW) in BC survivors.<sup>7</sup> The NIOSH Total Worker Health® (TWH) approach recognizes that the workplace impacts health, personal health behaviors, and ultimately the ability to function and to work.<sup>8</sup> This makes the work environment a good starting point to identify factors that can enhance health, job sustainability, and work outcomes in BC survivors.

We recently carried out a study of the associations among workplace exposures and three different outcomes in employed breast cancer survivors: length of sick leave, work ability, and leisure-time exercise. We surveyed 157 American BC survivors, working more than 20 hours a week at the time of diagnosis and within 3 months of stopping treatment, using an on-line survey. Length of sick leave was the number of missed work days for any health reason in the previous 3 months. Work ability is the person's perception of being able to meet the job's demands and is generally understood to result from interactions between the environments in which we live and work.<sup>9</sup> Work ability was assessed before diagnosis, during treatment, and at the current time, overall and specifically with regard to meeting the physical, mental, and interpersonal job demands. Exercise before diagnosis and currently were classified as "meeting" or "not meeting" the current American Cancer Society recommendations.<sup>10</sup> Possible workplace predictors (stress, physical and psychological job demands, job control, organizational, supervisor, and coworker support) were classified as high/low or present/absent. We analyzed these factors in relation to each of the three outcomes, accounting for multiple possible predictors.

Study participants were mostly female white, married, and well-educated, averaging 51 years old and working in white collar-type jobs at large companies for over 12 years. 48% met the exercise guidelines both before diagnosis and currently. One-third reported high work stress in the past 30 days; almost one-half had high current physical and psychological job demands and half reported current high job control. Most participants reported good current organizational, coworker, and supervisor support. Thus their post-treatment work experiences were overall rather favorable.

Work ability measures were lowest during treatment, improving after treatment was completed to levels higher than pre-diagnosis. High work stress predicted lower current overall work ability. Lower income and higher physical job demands and age predicted lower *physical* work ability. Higher work stress and non-union status predicted lower *mental* work ability. Higher coworker support predicted higher *interpersonal* work ability. Current overall and mental work ability were the only significant predictors of decreased sickness absence. Workplace factors did not appear to influence exercise patterns.

These results indicate that the health and work functioning of BC survivors change across time after diagnosis and treatment. A variety of interventions on multiple levels, at different points in time, may be needed to optimize worker well-being and job sustainability. Workplace policies can seek to reduce stress and to ensure adequate rest and recovery through greater scheduling flexibility. Efforts to promote coworker support through workplace social functions or through deliberate supervisor encouragement could lead to improved self-care. Steps such as these can increase work ability in employees with breast cancer and thereby contribute to decreasing their sickness absence, and likely in other workers as well. By addressing the overall work environment, along with individual characteristics and behaviors, organizations can support the productivity and well-being of their employees managing BC, and possibly other chronic conditions.

## Resources

This project was an independent part of a larger cross-sectional study funded by the Connecticut Breast Health Initiative Inc. (PI: A. Dugan, PhD) at UConn Health, with assistance from the cancer centers at John Dempsey Hospital and Hartford Hospital.

## References

1. Sun Y, Shigaki CL, Armer JM. Return to work among breast cancer survivors: A literature review. *Support Care Cancer*. 2017; 25(3):709-18.
2. Michie S, Williams S. Reducing work related psychological ill health and sickness absence: a systematic literature review. *Occup Environ Med*. 2003; 60(1):3-9.
3. Roelen CA, Koopmans PC, de Graaf JH, van Zandbergen JW, Groothoff JW. Job demands, health perception and sickness absence. *Occup Med (Lond)*. 2007; 57(7):499-504.
4. McGonagle AK, Fisher GG, Barnes-Farrell JL, Grosch JW. Individual and work factors related to perceived work ability and labor force outcomes. *J Appl Psychol*. 2015; 100(2):376-98.
5. Kerner I, Rakovac M, Lazinica B. Leisure-time physical activity and absenteeism. *Arh Hig Rada Toksikol*. 2017; 68(3):159-70.
6. Arvidson E, Borjesson M, Ahlborg G, Jr, Lindegard A, Jonsdottir IH. The level of leisure time physical activity is associated with work ability—a cross sectional and prospective study of health care workers. *BMC Public Health*. 2013; 13: 855-61.
7. Speck RM, Courneya KS, Masse LC, et al. An update of controlled physical activity trials in cancer survivors: a systematic review and meta-analysis. *J Cancer Surviv*. 2010; 4(2):87-100.
8. Schill AL, Chosewood LC. The NIOSH Total Worker Health program: an overview. *J Occup Environ Med*. 2013; 55(12 Suppl):S8-11.
9. Gagnano A, Negrini A, Miglioretti M, Corbiere M. Common psychosocial factors predicting return to work after common mental disorders, cardiovascular diseases, and cancers: A review of reviews supporting a cross-disease approach. *J Occup Rehabil*. 2017.
10. Rock CL, Doyle C, Demark-Wahnefried W, et al. Nutrition and physical activity guidelines for cancer survivors. *CA Cancer J Clin*. 2012; 62(4):243-74.

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