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Serious Psychological Distress as a Barrier to Cancer Screening Among Women

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A B S T R A C T

Background: The purposes of the study were to examine the association of serious psychological distress (SPD) and cancer-screening utilization in a nationally representative sample of women aged 40 to 74 years and to identify barriers and facilitating factors to breast and cervical cancer screening among women with SPD.
Methods: Women aged 40 to 74 (n = 17,770) were selected from the Household Component of Medical Expenditure Panel Survey series of 2007, 2009, and 2011. SPD was defined as a score of 13 of higher on the Kessler Psychological Distress Scale–6 items (K6 scale) of nonspecific psychological distress. Logistic regression was conducted to examine the association between SPD and up-to-date cancer screening.
Findings: Women with SPD had significantly lower rates of up-to-date clinical breast examination (67.56% vs. 81.93%), mammography (59.94% vs. 75.56%), and Pap smear (72.27% vs. 85.37%). In multivariate logistic regression analyses adjusting for sociodemographics, insurance, health behaviors, comorbidity, and service utilization, SPD was associated with nearly 40% decreased odds of being up to date with all three screening tests. Having a usual place of care, being physically active, and a greater number of past-year medical visits were strongly associated with higher odds of screening utilization among women with SPD.
Conclusions: Women with mental health problems have substantial risk for low use of routine breast and cervical cancer screenings. The K6 may be a useful tool to screen this risk factor. Frequent contact with the health care system among women with mental health problems opens up opportunities to reduce the mental illness-related disparities in utilization of cancer screening.

Breast and cervical cancer are significant causes of mortality, with estimated deaths of 45,000 in the United States in 2010 (U.S. Cancer Statistics Working Group, 2013). Periodic screening reduces mortality from these cancers and is widely recommended in well-regarded guidelines (American College of Obstetricians and Gynecologists [ACOG], 2009; U.S. Preventive Services Task Force [USPSTF], 2009). Despite a substantial increase in screening rates in the United States in the past decade, significant disparities in screening and disease burden in medically underserved groups and communities persist (Lasser et al., 2003). A less discussed disparity in cancer screening is among women with mental illness, such as depression, anxiety, schizophrenia, and bipolar disorder. Although the term health disparities is often interpreted in the context of race and ethnicity, many systematic social or economic obstacles to health exist in the United States (Carter-Pokras & Baquet, 2002). *Healthy People 2020* has extended the definition of health disparities and specifically listed mental health as a characteristic historically linked to discrimination or exclusion (U.S. Department of Health and Human Services, 2008). Persons with mental illness are at elevated risk for physical comorbidities and premature mortality and experience significant barriers in accessing health services (Colton & Manderscheid, 2006; Druss, 2007). There is a growing concern that inadequate utilization of medical services is partially responsible for the disparities in disease-specific morbidity and mortality among persons with mental illness (Druss, 2007).

However, studies examining the role of mental illness in cancer screening utilization among women have produced inconsistent results. In a recent systematic review, Aggarwal,

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Pandurangi, and Smith (2013) identified 15 studies that examined breast and cervical cancer screening among women with mental illness. About one half of these studies found that mental illness was associated with lower rates of cancer screening, with some inconsistencies by types of screening tests. In one study, women with high depressive symptom burden had significantly lower odds of mammography but not Pap smear in the subsequent year (Pirraglia, Sanyal, Singer, & Ferris, 2004). In comparison, lower rates of cervical cancer screening among women with schizophrenia and psychosis were reported in two studies (Martens et al., 2009; Tilbrook, Polsky, & Lofters, 2010). The other half of the studies found no difference in cancer screening utilization between women with or without mental illness. Varying sample size, study settings, and the definition and assessment of mental illness are possible explanations of the mixed findings (Aggarwal et al., 2013; Yee et al., 2011).

The limitations of previous studies, including small sample size and samples recruited from unique settings (e.g., psychiatric inpatient or outpatient), limit their ability to generalize the findings to broader populations. Small sample size also reduces statistical power, which may prevent studies from identifying small to moderate effect sizes. Moreover, most studies grouped patients by only psychiatric diagnosis, which is prone to misclassification error (Aggarwal et al., 2013). This grouping methodology also makes it difficult to capture the severity of illness within the same diagnostic criteria. Additionally, using samples with psychiatric diagnosis systematically excludes persons with undiagnosed, underdiagnosed, or untreated mental illness, estimated to be more than one half of all persons with severe mental illness (Kessler et al., 2001).

To address these limitations, this study used a global indicator of mental health that is more reliable and applies more broadly to a representative population of women. The primary objective of this study was to examine the role of serious psychological distress (SPD) in cancer screening utilization, including clinical breast examination (CBE), mammography, and Pap smear, in a nationally representative sample. SPD as measured by the Kessler Psychological Distress Scale–6 items (K6 scale) of nonspecific psychological distress (Kessler et al., 2002), is a nonspecific indictor of past-year mental health problems such as anxiety or mood disorders (Substance Abuse and Mental Health Services Administration [SAMHSA], 2008). The K6 was developed to identify persons in the general population with a high likelihood of having a diagnosable mental illness and associated functional limitations by using as few questions as possible (Kessler et al., 2002; Pratt, Dey, & Cohen, 2007). It has been implemented into major national surveys and surveillance systems to identify needs for programs and resources (Croft, Mokdad, Power, Greenlund, & Giles, 2009). By examining the association of SPD and cancer screening utilization, this study aimed at exploring the utility of K6 as an alternative to psychiatric diagnosis in assessing risks for underutilization of cancer screening among women. The secondary objective of the study was to identify barriers and facilitating factors to cancer screening among women with SPD.

Material and Methods

Participants

This study analyzed data from the Household Component of Medical Expenditure Panel Survey (MEPS-HC), a large-scale, nationally representative survey of health services and expenditures for the U.S. resident civilian noninstitutionalized population sponsored by the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Disease Control and Prevention (CDC). The panel design of the survey features five rounds of interviewing covering two consecutive calendar years for each panel. Since 2000, MEPS also administers Adult Self-Administered Questionnaire, a mail-back paper survey including questions regarding physical and mental health symptoms, smoking, and other attitude items to all household respondents aged 18 or older to supplement the data collected by interviews. The MEPS is designed in a way that data for each calendar year, covering rounds 3, 4, and 5 of the panel in its second year and rounds 1, 2, and 3 of the panel in its first year, is representative of the U.S. population in that year. This study did a cross-sectional analysis of full-year MEPS-HC data files from 2007, 2009, and 2011 (HC-113, HC-129, HC-147). Multiple years of data were pooled to obtain adequate sample size for women with SPD. Data were pooled from every other year rather than consecutive years to avoid duplicate respondents from the same panel. The overall response rates for MEPS-HC 2007, 2009, and 2011 were 56.9%, 57.2%, and 54.9% respectively (AHRQ, 2013a) and the conditional response rates for the Self-Administered Questionnaire were generally over 90% (AHRQ, 2013b). Women aged 40 to 74 years with valid responses on the K6 in the 2007, 2009, or 2011 survey ($n = 17{,}770$) were included in this analysis. Women who reported having hysterectomies ($n = 5211$) were excluded when rates of Pap smear were examined.

Measures

Outcome measures

In the MEPS-HC, women older than 17 were asked how long since their last breast examination and Pap smear test, and women older than 29 were asked how long since their last mammogram. Being up to date with each screening test was defined as receipt of CBE within 2 years, mammography within 2 years (USPSTF, 2009) and Pap smear within 3 years (ACOG, 2009).

SPD

The K6 was developed as a brief screening scale for nonspecific psychological distress in adults and has been shown to be strongly predictive of serious mental illness (Kessler et al., 2002, 2003). The K6 asks participants to rate the frequency of six symptoms of psychological distress over the past 30 days on a 5-point Likert scale of 0 (none of the time), 1 (a little of the time), 2 (some of the time), 3 (most of the time), or 4 (all of the time). These symptoms include feeling a) nervous, b) hopeless, c) restless or fidgety, d) so depressed that nothing could cheer you up, e) that everything was an effort, and f) worthless. The total score for K6 ranges from 0 to 24, with a higher score indicating more severe psychological distress. SPD is defined as a score of 13 or higher on the K6. Selected based on the results from receiver operating characteristic analysis, this cutoff point had a sensitivity of 0.36 and a specificity of 0.96 in predicting past-year serious mental illness (Kessler et al., 2003). Although the instrument is not intended to diagnose specific mental disorders, it can identify persons with mental health problems that are severe enough to cause functioning impairment and require treatment (Croft et al., 2009). Detailed information on the psychometric property and validation of K6 can be found in Kessler and colleagues (2002, 2003).