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Behavioral Theory in the Context of Applied Cancer Screening Research

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Abstract

The U.S. health care system is indeed challenged to provide effective, equitable, and efficient care for its citizens (Aday, Begley, Lairson, & Balkrishnan, 2004). The past decades have witnessed profound concern about the quality of care Americans receive, the equality of care across racial ethnic communities, and the escalating costs of private and public coverage. These concerns apply to the cancer care continuum, including screening. This commentary reflects on the methods, findings, and implications of the articles from the *Behavioral Constructs and Culture in Cancer Screening* (3Cs) in this *Health Education & Behavior* supplement. This commentary considers several important themes for consideration in applied screening research, including the (a) focus on population diversity in a cultural context, (b) domains of social context and their importance, and (c) contributions of an interdisciplinary team and mixed methods to research productivity. Although the articles focus on breast cancer screening, the methods, observations, and recommendations are relevant to other screening tests.

Keywords

applied research; behavioral theory; screening test

FOCUS ON POPULATION DIVERSITY IN A CULTURAL CONTEXT

The 3Cs work brings the roles of behavioral science and secondary prevention and the needs of ethnic and racial minorities front and center. It is a startling reminder of the population changes occurring in the United States and the complexity this brings to the design of tailored interventions for ensuring screening prevalence. The population is getting older, larger, and more diverse (U.S. Census Bureau, 2009). The provision of appropriate and acceptable services is further challenged by gender and age profiles and education and income differences within the population. For example, previous screening studies have noted the relationship of age with breast screening adherence (Wujcik & Fair, 2008). Washington, Burke, Joseph, Guerra, and Pasick (2009) highlight how differences and

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This monograph represents rigorous, detailed thinking and evidence concerning an important slice of a very large pie. The field is strengthened by innovative studies seeking clarification of theoretical domains and constructs, particularly as related to minorities. Striving for an integrated, complementary theoretical base at the individual, social, organizational, and policy contexts to inform intervention will continue to move us forward with the agenda to improve quality, equality, and efficiency in screening services.

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interactions of two generations of women may affect screening. Their study of mother and daughter dyads illustrates the importance of relational culture, including daughters' potential influence on mothers' motivation and care decision making. The importance of insurance and socioeconomic status to adherence to screening recommendations is clear (Sabatino et al., 2008). Although insurance coverage is enabling and contributes to self-efficacy, Burke, Joseph, Pasick, Barker (2009) note that differential access to social capital is strongly associated with meanings of self-efficacy, which in turn affects realized access to screening. These are only two examples of how a broad social lens provides insights concerning differences in screening behavior within commonly compared demographic characteristics while highlighting the daunting challenge that the changing population profile presents for screening services.

Importance of Social Context

Stewart, Rakowski, and Pasick (2009) provide an analysis of surveys of 1,463 women of five racial/ethnic groups speaking five languages, examining the longitudinal relationship between recent mammogram and the five selected behavioral theory constructs. The quantitative data generally supported the applicability of the constructs to screening behavior. The qualitative analyses demonstrated, however, that the operationalization of constructs such as subjective norms (Pasick, Barker, Otero-Sabogal, Burke, Joseph, & Guerra, 2009), perceived susceptibility, and perceived benefit (Joseph, Burke, Tuason, Barker, & Pasick, 2009) would be improved by multiple items reflecting underlying social mechanisms.

Gleaning from the inductive analyses of data from lay Filipina and Latina women as well as scholars and community gatekeepers, three domains of social context emerged—relational culture, social capital, and transculturation and transmigration. Rich examples of how these three domains affect behavior directly or via beliefs broaden our perspectives of the theory constructs.

Although health services research has yielded evidence of successful interventions to improve clinical practice, there is much to attend to if we are to promote the “simple” act of screening among important subpopulations (Meissner, Breen, Taubman, Vernon, & Graubard, 2007). Fletcher (2008) highlighted the importance of informed decision making, patient-centered communication, patient preferences, and risk stratification, all of which would help increase sensitivity to personal, cultural, and context issues. The findings of the 3Cs study, such as gatekeepers' and women's reports of distrust of the medical system and experiences of disrespect (Burke, Bird, et al., 2009), help inform potential interventions. As a body of work, the 3Cs initiative complements the growing evidence concerning theory and interventions related to minority populations in breast, cervical, and colorectal cancer screening (Bailey, Delva, Gretebeck, Siefert, & Ismail, 2005; Baron et al., 2008; Wu, Guthrie, & Bancroft, 2005).

Interdisciplinary Teams and Mixed Methods Across the Research Spectrum

Miller, Bowen, Croyle, and Rowland (2008) distinguished basic and applied behavioral and population science research:

Basic research provides the conceptual, empirical and methodological frameworks for identifying and developing relevant theoretical models, constructs, and measures, as well as for generating new empirical findings. The basic behavioral principles can then guide design, evaluation and dissemination of interventions to improve systems of care. (p. 6)

Pasick, Burke, et al. (2009) conducted basic behavioral research with a multiethnic and multidisciplinary team to develop a broad, integrated view of social context.

Stewart and colleagues (2009) emphasize that although quantitative measures of important theoretical constructs were shown to be associated with hypothesized relationships to recent screening behavior, they could not provide a complete explanation of the underlying mechanisms. As another example, “self-efficacy” as well as other widely applied constructs may be consistently related to screening adherence, but what makes one self-efficacious can vary across race/ethnicity. The work in this monograph demonstrates the importance of detailed descriptions from the qualitative analyses of themes to inform the operational definitions reflecting the construct and content validity for special populations. This principle likely also applies to studies of provider and organizational behavior.

IMPLICATIONS FOR FUTURE APPLIED SCREENING RESEARCH

Context Indeed Matters and Needs Research Attention at Multiple Levels

This issue emphasizes that cultural phenomena are multilevel, multidimensional, and dynamic and that personal influences are nested within larger levels of influence. This approach prompts us to be mindful of the cultural context of health care and how that affects provider and patient behavior as well as larger community and policy contexts. Health services research has demonstrated and reinforced the need for an ecological perspective, emphasizing a multilevel influence. The context in which clinicians practice is a prominent enabler of patient-centered screening and is an important focus for applied cancer screening research. In addition, screening is not a discrete event (Zapka, Taplin, Solberg, & Manos, 2003) but rather a continuum of steps and transitions between them. For example, detection and follow-up of abnormal screening tests involve communication between specialists and primary care providers, patient communication, and potential referral to other physicians and/or settings or organizations. Not only are there disparities in the prevalence of getting screened, one step in the process, there is also evidence that minority women have lower adherence to follow-up testing, which may reflect a range of personal and access issues across levels of influence (Masi, Blackman, & Peek, 2007; Yabroff, Washington, Leader, Neilson, & Mandelblatt, 2003). Building efficacious interventions is further challenged by the reality of the primary care context, with limited time, limited support staff for team approaches, poor reimbursement, and inconsistent advanced information systems (Fletcher, 2008; Klabunde et al., 2007).

To address screening disparities, research should focus on the interface of community and health systems interventions (Anderson, Scrimshaw, Fullilove, & Fielding, 2003). The 3Cs work encourages scientists to “think outside the box” when designing intervention strategies. Multilevel intervention testing, with tailoring to subpopulations’ needs, should be a priority. Universality of theory appropriateness cannot be assumed; rethinking, challenging, and modifying theory domains and creation of valid measures for research are important.

Translational Research Teams Using Complementary Methods Are Essential

Although there has been interdisciplinary work in applied screening research, multiple disciplines need to continue to work to integrate, synthesize, and extend theories and models to address complex issues (Stokols, Hall, Taylor, & Moser, 2008). Given the multilevel influences on screening performance, greater interaction with social and behavioral, organizational, and policy disciplines will forge new conceptualizations and improved measurement of key constructs (Grol, Bosch, Hulscher, Eccles, & Wensing, 2007). Disciplinary silos are difficult to penetrate, and concerted effort is needed to build team science and bridge that with public policy (Croyle, 2008). Behavioral, clinical, and practice

organizational perspectives are all needed to improve delivery and uptake of screening services by multicultural women. In addition, the potential genetic and biological differences in cancer development and reaction to treatment further support the goal of building translational teams.

The qualitative inductive methods demonstrated in this issue can be applied to numerous constructs for theories from many disciplines including organizational behaviors. The need for psychometric work to design and refine culturally appropriate constructs is clear. Among the findings was the nonlinear relationship among social constructs, behavioral theory, and actual behaviors. A social context domain can influence behavior directly, and the contextual influences are dynamic and contingent on other factors converging at a given moment. Sophisticated multilevel approaches must consider these dynamics when exploring important behavioral outcomes.

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