

Combining Cancer Control Information With Adult Literacy Education: Opportunities to Reach Adults With Limited Literacy Skills

Ian M. Bennett, MD, PhD, Sunil Kripalani, MD, MSc, Barry D. Weiss, MD, and Cathy A. Coyne, PhD

Introduction

Approximately 20% of adults in the United States have limited literacy skills, impairing their capacity to use written materials.¹ This group of adults with low literacy is over-represented among populations with disparities in cancer outcomes (eg, ethnic minority groups, the elderly, and individuals of lower socioeconomic status).^{2,3} Low literacy skill has been independently associated with poor knowledge about cancer screening,^{4,5} less frequent cancer screening,⁶ more advanced stage of cancer at the time of diagnosis,⁷ and worse self-reported health status.^{8,9} Controlling for literacy can eliminate many of the differences in cancer screening knowledge and stage of presentation that have been attributed to race and income.^{4,7}

A major goal for cancer control is to provide health promotion and disease prevention messages to high-risk populations.^{10,11} It is particularly difficult to deliver these messages to individuals with limited literacy skills.¹² The development and evaluation of methods to improve health education and communication for low-literate adults is a critical area of investigation.^{13,14}

Adult basic literacy education (ABLE) and English for speakers of other languages (ESOL) programs in the United States are provided through an extensive network of professional and volunteer settings. A conservative estimate based on sampling surveys and

census data indicate that approximately 1.7 million adults over the age of 18 enrolled in these programs in 1999.^{15,16} Approximately half were women, and 19% were over the age of 45 — an appropriate audience for screening messages targeting older adults. These programs provide sustained and in-depth education that targets development of literacy skills, often aimed at high school graduate-equivalency degree (GED) preparation.

Adult educators and their students are interested in using health topics and materials for literacy instruction, but no critical reviews of this work have been published.¹⁷ We performed a systematic review to determine whether programs combining ABLE/ESOL with cancer control education are available, and if they are, to determine the content of their curricula and whether studies have evaluated these programs.

Methods

A computerized search of medical and education literature was performed to identify review articles, opinion pieces, ABLE/ESOL curricula, and evaluation studies addressing, *in any way*, the use of cancer control materials in adult literacy education programs. MEDLINE (1966 to March 2003), CINAHL (1982 to March 2003), CANCERLIT (1975 to October 2002), and HEALTH STAR (1975 to February 2003) online databases were searched, using the following key words, MeSH terms, and subject headings: health education, literacy education, educational status, empowerment, adult basic education, health promotion, cancer education, cancer control, and neoplasms. In addition, we searched educational and other databases (March 2003), including the Education Resources Information Center (ERIC) database, the Literacy Information and Communication System (LINCS), the National Institute for Literacy - Health and Literacy Special Collection, the Computer Retrieval of Information on Scientific Projects (CRISP) system of the National Institutes of Health, the Combined Health Information Database (CHID) of the US Public Health Service, and the Centers for Disease Control and Prevention Web site.

Bibliographies from articles were explored and experts in the field consulted for pertinent materials. One author (I.M.B.) conducted the initial computer searches and included all materials that mention the use of cancer control topics in ABLE/ESOL classes. These materials were retrieved, sorted into topic

From the Department of Family Practice and Community Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania (IMB), the Department of Internal Medicine at Emory University School of Medicine, Atlanta, Georgia (SK), the Department of Family and Community Medicine at the University of Arizona College of Medicine, Tucson, Arizona (BDW), and the Department of Community Medicine at West Virginia University School of Medicine, Morgantown, West Virginia (CAC).

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Address reprint requests to Ian M. Bennett, MD, PhD, Department of Family Practice and Community Medicine, University of Pennsylvania, 2nd Floor Gates Building, 3400 Spruce Street, Philadelphia, PA 19104. E-mail: ibennett@mail.med.upenn.edu

areas, and reviewed for specific content as well as whether the publication was indexed in the education and/or medical literature. Articles with evaluation components were reviewed for study design; our inclusion criteria for evaluation studies simply required the publication to clearly define methods and outcomes (of any type) and to use a comparison group for measuring the effect of the intervention.

Results

Reports on the Possible Value of Combining ABLE/ESOL With Cancer Control Education

We identified only five position papers or authoritative reviews of the potential benefit of incorporating cancer control curricula into ABLE/ESOL programs.^{14,17,20} Articles were found only in the ERIC database (education literature) and were not cited in the medical databases. Themes included the potential benefits of (1) increasing literacy course retention and interest by using “contextual” materials valued by adult learners, (2) improving health information transfer to vulnerable populations, and (3) connecting educators and health practitioners. These articles suggested, with no quantitative evidence, that many adult basic education programs include health information in their curricula.

Two surveys explored educators’ opinions regarding health materials in ABLE/ESOL programs.^{21,22} Educators felt that health topics were appropriate for ABLE/ESOL programs, enhancing the capacity to provide literacy instruction.²¹ Nutrition was the most common health topic covered. A survey of state directors of adult education programs indicated support for including health topics.²²

Reports on Specific ABLE/ESOL and Cancer Control Curricula

Eleven ABLE/ESOL programs that incorporated cancer control information were identified in the ERIC database; there were no examples of such curricula in the medical literature. The curricula used varied instructional formats, including on-line programs as well as classroom and individual instruction. These curricula covered cancer prevention, a range of cancer types (breast, cervical, skin, testicular, and lung), nutrition, and environmental exposures to carcinogens (Table). Content included detailed medical information on prevention behaviors, screening, smoking cessation, access to care, and doctor-patient communication. Some reports described the process of curriculum development and sources of medical information. Curricula

included Internet-based distance learning,²³ learner-generated participant-action curricula,²⁰ and traditional classroom-based ABLE/ESOL and GED courses.^{24,30}

Evaluation

A search of the medical and education literature yielded no controlled studies describing the evaluation of any of the aforementioned cancer control ABLE/ESOL curricula. Two program reports included an uncontrolled evaluation component, but because of the lack of comparison groups, these papers did not meet our inclusion criteria.^{31,32}

Discussion

Our review suggests that adult basic education programs do include health materials, and we identified 11 specific programs that incorporate cancer control messages. However, none of these programs have reported results of rigorously designed evaluation studies of effects on knowledge, attitudes, behaviors, or health outcomes. Furthermore the relevant literature was found only in educational databases, and many cancer control researchers and providers may be unaware of these reports.

The lack of attention to evaluating the health benefits of ABLE/ESOL-based cancer education is surprising, given the priority that has been assigned by the National Cancer Institute to finding novel means of delivering cancer control messages to at-risk populations.¹⁰ Specific challenges to carrying out program evaluations include (1) high attrition of the adults learners from adult literacy programs, (2) measurement instruments that are appropriate for adults with limited English literacy skills, (3) diversity of cultures and languages represented in the learner population of ESOL programs, and (4) competing evaluation

Adult Basic Education Curricula Incorporating Cancer Control Messages

Cancer Control Topic	Number	Program Types
Breast cancer ^{24,27-30,32}	6	ABLE/ESOL classes Participatory action Health provider
Cervical cancer ^{20,27,28,31}	4	ABLE/ESOL classes Participatory action Health provider
Testicular cancer ^{20,31}	1	Participatory action
Skin cancer ²³	1	Distance learning
Nutrition ^{26,30,32,33}	4	ABLE/ESOL/GED classes
Environmental exposure ²⁹	1	ABLE/ESOL classes
Smoking cessation ²⁵	1	ABLE/ESOL/GED classes

ABLE = adult basic literacy education
ESOL = English for speakers of other languages
GED = graduate-equivalency degree

demands within adult literacy programs. These challenges can best be addressed by using a multidisciplinary approach that involves partners from adult basic education programs from the earliest planning stages. Because adult literacy programs tend to be learner-centered, health educators and program planners should involve learners as well as instructors when seeking to develop and implement a curriculum. The interest in incorporating health-related content for adult literacy programs reported by both the teachers and learners in ABLE/ESOL programs suggests such a collaborative approach will be productive.

There are limitations to the methods used for our review. While we employed a thorough search strategy, we may have missed program descriptions, particularly those that have not been published in the indexed medical or education literature. Also, although we did not limit our search to English language articles, we may still have missed reports of programs from non-English-speaking countries. Many such articles could be missing from the databases we used.

Conclusions

Although we identified review articles and opinion pieces that articulate potential benefits of linking cancer control instruction to ABLE/ESOL curricula, there is at present no strong evidence of their benefit, in terms of knowledge, behavior, or outcomes. Thus, the value of such programs as conduits for cancer control messages is largely unknown. Evaluating the benefit of this approach to literacy and cancer education should be a focus of future research. This is an opportunity to carry out multidisciplinary research linking adult educators and cancer control scientists.

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