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Implications for Public Health Programs and Future Research: A Review of Cervical Cancer Screening Intervention Research

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ABSTRACT: ***We evaluate the existing literature on cervical cancer screening intervention studies in this article. When various media are utilized, when particular screening programs are promoted that remove or decrease access obstacles, or when they are used in conjunction with other measures, mass media campaigns seem to perform best in encouraging cervical cancer screening. Many good instances of employing outreach workers to encourage cervical cancer screening as well as using community-based mobile examination rooms were discovered. There is significant evidence that letters sent to patient groups are effective, particularly in encouraging interval screening; nevertheless, mass mailings to nonpatient populations have usually failed. Both physician and patient cues, as well as opportunistic checks, have proven promise in both outpatient and inpatient settings. Telephone follow-up, educational mailouts, multimedia programs, clinic-based educational lectures and seminars, transportation incentives, and economic vouchers were all suggested as methods for decreasing loss to follow-up among women with abnormal test findings. The effectiveness of other nations in creating centralized recall systems to encourage cervical cancer interval screening is particularly noteworthy. In the long run, such systems may be able to eliminate the need for opportunistic screening in disadvantaged groups, as well as many community engagement activities. Health departments, it is claimed, are a natural starting point for establishing a network of recall systems for disadvantaged women in the United States.***

KEY WORDS: ***Cervical Cancer; Mass Screening; Intervention Studies; Review.***

1. INTRODUCTION

Cervical cancer is one of the rare diseases for which a ‘‘consensus-approved" screening test (the Papanicolaou or ‘‘Pap" smear) exists, in addition to very effective treatment regimens for early stage illness. As a result, the majority of cervical cancer fatalities are classified as "avoidable mortality." Despite the fact that long-term national statistics indicate a declining death rate from cervical cancer, over 15,000 women are anticipated to acquire invasive cervical cancer in 1997, with about 5,000 U.S[1]. women dying from the illness. The fact that the incidence of invasive cervical cancer among young women in the United States has been rising at a rate of approximately 3% per year since 1986 is also concerning. The recent rise in the incidence of invasive cervical cancer in young women highlights the need of continuing to promote Pap smear screening. Furthermore, low-income minority women bear a disproportionate part of the cervical cancer burden in this nation, in terms of both incidence and death. More extensive efforts to reduce cervical cancer will need to include health department programs at some level, given that state and local health departments are frequently the primary provider of health care for these women[2].

The National Cancer Institute (NCI) and other organizations and agencies have sponsored a significant body of research to investigate methods for increasing cervical cancer screening rates

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in the United States during the last 10–15 years. In addition, a number of researchers in other countries have carried out intervention studies that have a significant impact on cervical cancer prevention efforts in the United States. The primary reason for this study has been the constant observation that women who are most at risk of dying from cervical cancer (e.g., older women and women with poorer education and income) are typically the least likely to get tested. Recent statistics from the National Bureau of Economic Research, for example, recent data from the National according to the Health Interview Survey, about 35% of all adult U.S. women had not been tested for cervical cancer in the previous three years. This proportion is greater in some demographic categories, with 40% of women living in rural regions, 43% of women living in poverty, and 47% of women 50–64 years old having no Pap smear in the previous three years[3].

We examine the available literature on cervical cancer screening intervention research in this article to see whether strategies have shown enough potential to warrant widespread adoption and additional investigation in the United States and abroad. For many reasons, such a review is particularly relevant. The National Institutes of Health and the National Cancer Institute have set substantial increases in cervical cancer screening as part of their national goals for the year 2000[4]. In addition, the Breast and Cervical Cancer Mortality Prevention Act was recently passed by the United States Congress, providing funding for the National Breast and Cervical Cancer Early Detection Program (NBCCEDP). The NBCCEDP is managed by the Centers for Disease Prevention and Prevention, and it is one of the most compelling public health efforts in cancer control in recent years (CDC). The convergence of these national program and policy efforts emphasizes the need for an ambitious research program to enhance cervical cancer screening in the United States.

2. DISCUSSION

A computerized literature search using the following databases yielded the majority of the research evaluated in this paper: Combined Health Information Database, Cancerline, Medline, Healthline, Psychology Abstracts, Sociology Abstracts, and the Education Index. As a result, the primary goal was to offer a summary of the intervention research literature as published in peer-reviewed publications. Randomized trials, quasiexperimental studies with some kind of control or comparison group, and studies without a control group that provide results that may assist evaluate the feasibility of a specific intervention approach are all included in this study[5]. This comprehensive review of the literature aims to identify intervention methods that have the potential to be used in future programs, particularly by state and municipal health departments.

Furthermore, this comprehensive review of the literature aims to identify gaps in the current body of knowledge that may aid in the formulation of a research agenda for the future. Based on the main emphasis of the study (key terms utilized in the computerized literature search were cancer screening, cervical cancer, cervical cancer screening, and Pap smear), this review found almost 200 papers. Following that, all of the studies were categorized into two broad groups based on the intervention's primary goals[6]. Intervention studies aimed at increasing the number or percentage of women tested for cervical cancer fall into the first group. Studies in this broad category were then divided into two groups based on whether the intervention used outreach strategies (i.e., interventions that reached out into the community to promote screening) or inreach strategies (i.e., interventions that took place at the health care facility to promote or facilitate screening among

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patients, particularly during patient visits). Intervention studies intended to decrease loss to follow-up among women with abnormal Pap smears fall under the second broad group[7].

In a time when the randomized controlled trial is the preferred study method in biomedical research, it's worth noting that the effectiveness of cervical cancer screening has been determined via quasiexperimental studies. The scarcity of randomized controlled trials is due in large part, if not completely, to historical circumstances. There were no procedures for randomized controlled trials when the Pap smear was originally launched, and today, due to its broad acceptance and usage, such a study is no longer feasible. Despite this, the body of evidence indicates a dose–response connection between the scope of screening programs and subsequent decreases in cervical cancer morbidity and death. This line of inquiry also serves as the foundation for this evaluation[8]. What particular treatments may be suggested for increasing cervical cancer screening rates, given the probable evidence that cervical cancer screening programs can decrease cervical cancer morbidity and mortality?

Outreach Strategies for Cervical Cancer Screening

To improve cervical cancer screening, a variety of outreach methods have been used, including mass media campaigns, community mailouts, and the employment of community volunteers and other outreach professionals. Shelly et al. found that a television, radio, and magazine campaign had a substantial but short-lived impact on screening rates in Australia, particularly among women 50 and older. Similarly, a media effort that included posters, supermarket flyers, newspaper articles, paid ads, and radio and television public service announcements was effective in promoting new cervical cancer screening programs in New Hampshire clinics. Suarez et al., on the other hand, found that a local media campaign in Texas (television, radio, newspapers) coupled with the employment of community outreach volunteers had no effect on cervical cancer rates[9].

Although there was an impact for screening mammography among Latinas, no similar effect was observed for screening mammography[10]. The approach of sending educational materials and/or letters inviting people to join in a screening program seems to boost cervical cancer screening rates as well. This finding is supported by a number of research performed in the United States and abroad. Many studies have used letters sent to women from their usual source of health care, such as one that found that a letter coupled with telephone follow-up boosted cervical cancer screening among low-income women in a managed care organization.

In addition, Hulka and Fulghum’s and Klein's early research suggests that the same method works for nonpatient groups. Both of these studies are particularly relevant now, considering the increasing focus on developing cervical cancer screening programs in state and municipal health departments. Nonpatient lists produced by other community intermediaries (such as welfare clients and women receiving help under the Aid to Families with Dependent Children program) were used in both trials to send letters in collaboration with health departments. The letters had a substantial effect on cervical cancer screening in both instances. It's worth noting, however, that these letters were connected to existing community organizations that were critical to these women's economic well-being.

Given the employment of both mass media campaigns and letters sent to community women in outreach efforts, one may wonder which of these two methods is more successful in encouraging

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cervical cancer screening, and if combining both strategies is beneficial. Mitchell and colleagues recently published a research that attempted to address this issue. The researchers were able to control both the amount of community outreach (mainly a mass media campaign consisting of radio and print ads) and whether women got a personal invitation to have a Pap smear using a randomized factorial design. The findings of this field experiment were unmistakable: combining both techniques was significantly better to the control condition as well as both strategies evaluated individually. The media campaign seemed to have a greater relative impact than the letters in this research, despite the fact that both treatments were statistically superior to the control condition.

Byles and colleagues discovered that combining mass media with a letter campaign was more effective than mass media alone, using a slightly modified strategy. In this study, researchers evaluated the efficacy of three community-based methods to promote cervical cancer screening in Australia: television alone, television coupled with a letter campaign, and television combined with a physician-based opportunistic screening program. The researchers discovered that all three treatments were linked to an increase in cervical cancer screening using a matched community approach. However, the intervention that relied only on television had the lowest score and was ruled out as a feasible approach. Combining mass media with a letter campaign, on the other hand, was very successful in encouraging older women to be screened.

The approach of combining television with opportunistic screening had the most consistent overall impact and was most successful in attracting women who had never been screened before. Young and Trevan showed that combining mass media with community outreach was more successful than mass media alone in reaching women over 55 years old in another research performed in Australia. The media campaign, which took place in New South Wales (NSW), consisted of a two-day television ad promoting cervical cancer screening. Following the campaign, the NSW North Coast Region (NCR) maintained the initiative with community outreach, which included personal contact with about 10,000 women by trained community health teams.

Using centralized screening data from the Health Insurance Commission, screening rates were also compared with the rest of Australia (excluding NSW) for analytic reasons. According to the findings, screening rates for women over 55 years old rose by almost 120 percent in the NCR. The comparable figure for NSW was 58 percent, compared to 41 percent for the whole country. These results, like those of Mitchell and colleagues and Byles et al., show that using mass media alone is ineffective compared to using a mix of tactics, in this instance using mass media in conjunction with community outreach people. Numerous studies have looked at the employment of community volunteers and other outreach workers to improve cervical cancer screening, with the majority of them supporting this general approach. Door-to-door recruiting for cervical cancer screening was one of the first community outreach methods.

The Cardiff Cervical Cytology Study in the United Kingdom is a famous example of this method, in which all eligible women in the Cardiff city region were recruited door to door. Every qualified woman (N 4 66,983) was given a free Pap smear in a special clinic set up in her region as part of this campaign. The average rate of recruiting was about 65%. Older women (26 percent) and women from lower socioeconomic backgrounds were the least likely to participate in this particular program (52 percent). Young and Trevan, Dunn and Sprunt, MacGregor and Baird, and

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Osborn and Leyshon, among others, have reported similar methods, with the latter research actually providing Pap smears at home. Other face-to-face recruiting attempts have included.

There are many examples of interventions that have effectively improved cervical cancer screening in different target groups in the study literature. Most, if not all, of these treatments are exportable to state and/or municipal health agencies, at least in principle. The use of mass media campaigns and community outreach personnel to promote low/no-cost Pap smears, the use of mobile examination rooms promoted by community intermediaries and/or indigenous outreach personnel, mailouts to patient and nonpatient populations, referrals made by screenees to their friends and neighbors, and physician prompts to promote opportunistic Pap smears are all included herein.

Multiple follow-up contacts, instructional mailouts, slide-tape or video programs, on-site educational lectures and workshops, transportation incentives, and economic vouchers are all effective methods for decreasing loss to follow-up among women with abnormal test findings. Although there is some evidence in the literature to support all of the above, there are a few key cautions to be aware of. For example, the impacts of mass media campaigns are usually short-lived, thus these tactics are probably best utilized in conjunction with other strategies. The power of mass media campaigns, according to conventional wisdom and a large body of empirical data, is to raise awareness (i.e., ‘‘agenda framing") and offer a background context for other intervention methods, rather than to serve as a single trigger to action for behavior change.

3. CONCLUSIONS

Pap smear screening has become so ingrained in our public health strategy that failure to do so is now regarded one of the leading causes of invasive cervical cancer. It has been calculated that if Pap smears were no longer used, the lifetime chance of getting cervical cancer would rise by 200–300%. Tragically, another 8,000–10,000 women in the United States died unnecessarily from this illness during the time this article was being written and ultimately published. We now have the capability to practically eradicate cervical cancer mortality in the United States within our lifetimes. To accomplish this objective, the National Institutes of Health must make a strong, unwavering commitment to maintain an intensive research program, as well as a matching commitment to communicate, promote, and finance proven-effective intervention methods. According to this study, there seems to be no lack of well-designed intervention methods with shown effectiveness.

However, most of this research has been done in settings that may not be applicable to public health departments in the real world. As a result, additional study is required within state and municipal health agencies to evaluate the efficacy and cost effectiveness of these treatments. A systematic recall system has the potential to remove the need for both opportunistic screening and community outreach in the future, particularly if enough women react to the recall invitation and associated promotional activities. The idea that cervical cancer screening programs would be broadly accessible to disadvantaged groups is, however, inherent in this whole debate. Whether or not this assumption holds true in the near run will depend on whether the NBCCEDP (or its programmatic counterpart) continues to get money from Congress, and perhaps in the longer term, on the effect of managed care on the US health-care system.

REFERENCES:

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[1] A. Hammer, A. Rositch, F. Qeadan, P. E. Gravitt, and J. Blaakaer, "Age-specific prevalence of HPV16/18 genotypes in cervical cancer: A systematic review and meta-analysis," *International Journal of Cancer*. 2016, doi: 10.1002/ijc.29959.

[2] C. M. Wheeler, W. C. Hunt, N. E. Joste, C. R. Key, W. G. V. Quint, and P. E. Castle, "Human papillomavirus genotype distributions: Implications for vaccination and cancer screening in the United States," *J. Natl. Cancer Inst.*, 2009, doi: 10.1093/jnci/djn510.

[3] A. Yagi *et al.*, "Realistic fear of cervical cancer risk in Japan depending on birth year," *Hum. Vaccines Immunother.*, 2017, doi: 10.1080/21645515.2017.1292190.

[4] H. Lester *et al.*, "The impact of removing financial incentives from clinical quality indicators: Longitudinal analysis of four Kaiser Permanente indicators," *BMJ*, 2010, doi: 10.1136/bmj.c1898.

[5] A. Jemal *et al.*, "Cancer Statistics, 2005," *CA. Cancer J. Clin.*, 2005, doi: 10.3322/canjclin.55.1.10.

[6] T. Kiran, A. S. Wilton, R. Moineddin, L. Paszat, and R. H. Glazier, "Effect of payment incentives on cancer screening in Ontario primary care," *Ann. Fam. Med.*, 2014, doi: 10.1370/afm.1664.

[7] M. Sant *et al.*, "Survival of women with cancers of breast and genital organs in Europe 1999-2007: Results of the EUROCARE-5 study," *Eur. J. Cancer*, 2015, doi: 10.1016/j.ejca.2015.07.022.

[8] S. K. Zhang *et al.*, "The natural history of cervical cancer in Chinese women: Results from an 11-year follow-up study in china using a multistate model," *Cancer Epidemiol. Biomarkers Prev.*, 2014, doi: 10.1158/1055-9965.EPI-13-0846.

[9] A. Anttila, A. Pokhrel, L. Kotaniemi-Talonen, M. Hakama, N. Malila, and P. Nieminen, "Cervical cancer patterns with automation-assisted and conventional cytological screening: A randomized study," *Int. J. Cancer*, 2011, doi: 10.1002/ijc.25677.

[10] T. Wang, M. H. Wu, Y. M. Wu, and W. Y. Zhang, "A Population-based study of invasive cervical cancer patients in Beijing: 1993–2008," *Chin. Med. J. (Engl).*, 2015, doi: 10.4103/0366-6999.171420.