

Letter to the Editor

Mammography and breast cancer screening



To the Editor,

Dr. Pan and colleagues in this issue commented that there is a substantial policy favoring and emphasis on early detection and treatment of various kinds of cancers prevalent in developed countries.¹ In Taiwan, the government not only provides Pap smears for cervical cancer screening, but has maintained a nationwide, free and biennial mammographic screening program since 2004.¹ There was a significant 10-year delay from the time that Pap smear screening began to be widely used in Taiwan in 1995.^{2,3} Like most medical developments that have to go through routine channels of administrative review, the path to ultimate approval by the Taiwanese government can be challenging. The Pap smear procedure in Taiwan also faced many difficulties, given that Pap smear was likely first introduced in Taiwan as early as 1974.^{2,3} Although the benefits of Pap smear have been long established, more than 20 years were wasted in the elongated process for this procedure be accepted as a screening tool. The progress in cancer screening facilitated by the use of Pap smear has acted to reduce the substantial onset and spread of invasive cervical cancer in the majority of women. Since the Pap smear screening program was introduced, the incidence rate (IR) of invasive cervical cancer has dramatically decreased and continues to decline. Because there has been considerably more frequent and earlier detection of precancer cervical lesions, the IR of invasive cervical cancer has remained below the IR of pre-cancer cervical lesion since 1998; that IR remains persistently low in 2014.² To date, the covering rate of 3-year Pap smear was up to 57% of women \geq 30 years of age.² This covering rate has helped to decrease the number of newly diagnosed cases of far-advanced cervical cancer,⁴ reduce the cost of medical care,⁵ and further significantly improved outcomes for patients and prolonged their lives.

How significant is the mammographic screening program? It has been reported that the covering rate of the target population in Taiwan (between 45–69 years of age) was nearly one third in the most recent 2 years,¹ contributing to a substantial increase in the number of cases of breast cancer that were detected. Therefore, the actual incidence of invasive breast cancer increased significantly.⁶ In 2011, the IR of breast

cancer was 64.3 per 100,000 women after adjustment for age, contributing to a mortality rate of 15.99 per 100,000 women. This represented the 4th highest mortality rate of all cancer deaths.⁶ However, the IR of breast cancer seemed to be continuously elevated. By contrast, breast cancer-related mortality also seemed to increase, a trend which appears poised to remain unchanged in the near future. We do not know whether or not this increased IR and/or mortality rate of breast cancer is secondary to Taiwan's free biennial mammographic screening program. In fact, this program provided by the Taiwan's Health Promotion Administration in the Ministry of Health and Welfare should be a functional and valuable public policy to promote women's health.⁶ In addition, given the media attention devoted to the topic of breast cancer, high profile fundraising events and the abundance of breast cancer awareness efforts, government officials might concluded that a majority of women are well informed about breast cancer and perhaps assume that the path to cancer screening and evaluation is well-marked and free of barriers, as stated by Dr. Harvey.⁷ Unfortunately, the mammography screening outcome appeared to be significantly different and potentially inferior to that of Pap smear. That is to say, after introducing the national free mammography screening program, the IR and mortality rate of breast cancer has increased; by contrast, the IR and mortality rate of cervical cancer decreased after the national free Pap smear screening program was introduced.

In addition, the overall quality of the screening mammography program seemed to be inferior to that of the Pap smear screening program. The recall rates of screening mammography in Taiwan since 2005 ranged from 9.3% to 10.0%,¹ although the result is within the recommended range of the American College of Radiology. However, just like Dr. Pan mentioned,¹ an unusually high or low recall rate was still found in Taiwan, suggesting that there are wide variations in the skill levels of imagers interpreting the results at different facilities.⁷

Furthermore, the authors failed to discuss what the next step of "abnormal mammography screening" will be. This omission may be a consequence of the lack of consensus among professional and government-supported organizations and associated messaging.⁷ For example, women may experience extreme anxieties when informed that they should have a subsequent 6-month follow-up diagnostic test. Some of these women would likely opt for a breast biopsy, which further

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results in the increased unnecessary cost of medical care and an elevation of patient emotional embarrassment. By contrast, the next step of “abnormal Pap smear screening” is well-established. Most importantly, the emotionally charged issue of women with “abnormal Pap smear screening” has been extensively reviewed,⁴ suggesting that Pap smear as a screening method is much more acceptable and the cost-effective than mammography.

Finally, the authors also failed to discuss the following important issue – the patient burden of screening mammography recall. In fact, the subsequent financial charges and other challenges to patients associated with unnecessary recall have not been extensively reported in the breast cancer screening literature.⁶ In addition, Dr. Pan in this issue might have displayed a greater interest in the decreasing of false negative cases instead of false positive screening mammography.¹ However, false positive screening mammography is an important issue not only arising from the considerable increase in financial cost it poses, but also for the emotional cost as well. It has been reported that the financial burden to patients from health care utilization due to unnecessary recall following a screening mammography was significant and disproportionately distributed.⁸

Overall, the road to creating an appropriate environment of cancer screening and diagnosis which can be easily accessed by and functions well for women in Taiwan remains a long one. Additionally, the actual value of the screening mammography program in Taiwan is still uncertain, and only time will tell whether these efforts have a net benefit for women.

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