Twitter Thread by Pramesh CS



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Let me tell you an amazing story...

In the 1990s, a maverick breast surgeon at @TataMemorial (fresh from his return from the UK) stepped up to do research. Now, to understand the situation, you should go back 30 years, when research was not as big as it is now, and certainly not from surgeons.

Surgeons, and especially cancer surgeons, were renowned for their technical prowess, and their sheer bravado – "wherever the cancer, however advanced, I will take it out". So, our surgeon-researcher was ridiculed for even attempting clinical research

For a surgeon, he couldn't have chosen a worse topic to research on: early detection; nothing to do with surgery, or even treatment. Remember, this was the 1990s. Cowboy surgery was celebrated, and research ridiculed

Being a breast surgeon, he was troubled with women consistently coming with advanced cancers, and he set out to see if he could work on picking them up at an earlier stage. But community-based early detection needs money, and he just didn't have it.

He called up his friend who was a corporate leader with an Indian consumer company, and asked him to fund a pilot. Probably based more on friendship than his belief in the idea, the friend gave him a small grant

Our protagonist breast surgeon, accompanied by a couple of his co-workers go around the lanes of Parel (Mumbai) daily, examining women clinically to detect breast cancer early. They examine 4000 women, and find two cancers

By a strange twist of fate, the 1994 @uicc annual Congress was held in New Delhi by the @TataMemorial
Our maverick presented these results at the meeting. What followed subsequently would be unbelievable in today's world

A tall American gentleman walked up to our breast surgeon, congratulated him on the study and suggested he apply for a grant from the @NIH
At the time, our hero had no idea that the American gentleman was in charge of grant funding at the @NIH

To cut a long story short, the application forms arrived, the application was made (ambitiously, for breast and cervical cancer) , and our hero received an @NIH R01 grant! This is an extremely difficult grant to get...

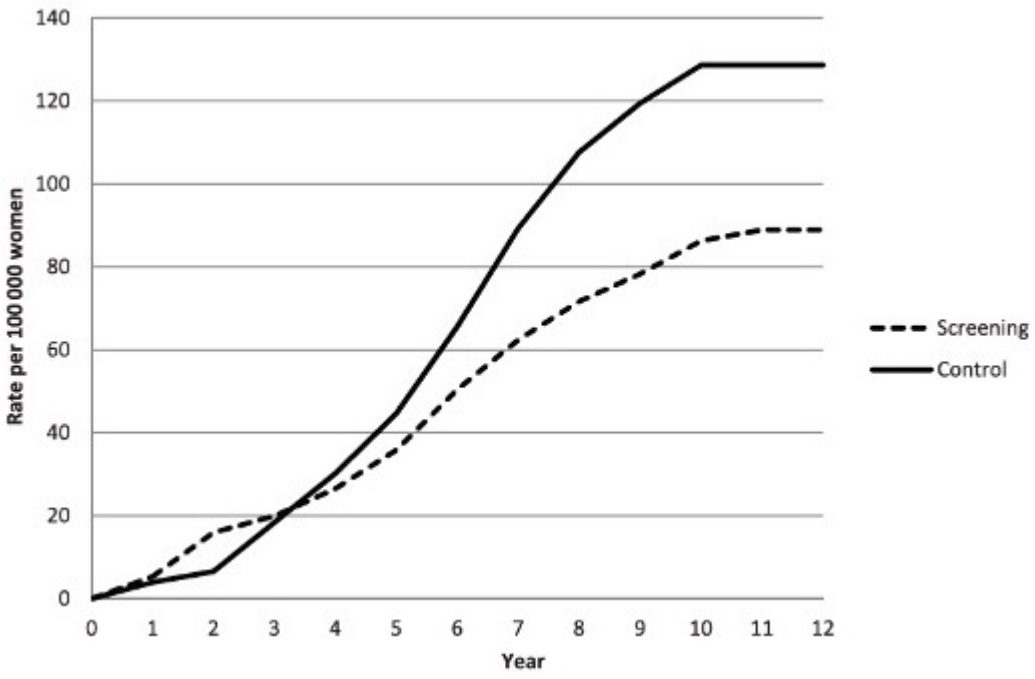
Soon, he started a community-based cluster randomized trial evaluating the role of #VisualInspectionAceticAcid and #ClinicalBreastExamination for early detection of cervical and breast cancer respectively in 150,000 women between 35 and 64 years in the slums of Mumbai

The challenges were enormous: skeptical women (and skeptical families); the sheer logistics of screening 75000 women with #VIA and #CBE every 2 years for 8 years, and following up 150,000 women for 20 years; recording every cancer; recording every death

He had great support: his mentee (Dr Rajan Badwe, who went on to become the Director of the @TataMemorial), some young, idealistic preventive oncology physicians (Dr Gauravi Mishra & Dr S Shastri), over a 100 dedicated high school educated women as health workers

Relentlessly screening, recording, documenting, following up every one of these 150,000 women, over 20 years! And remember, these were Mumbai slums.. where migration was the rule rather than the exception

15 years later, the cervical cancer screening results came in – a 31% reduction in cervical cancer mortality, using a low-cost, low-tech method, which soon was adopted by several Indian states



The cervical cancer mortality reduction was recognized and given the privilege of a plenary presentation at @ASCO ; to give context, 5 out of 35000+ abstracts are chosen for an @ASCO plenary talk

Effect of VIA Screening by Primary Health Workers: Randomized Controlled Study in Mumbai, India

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Background Cervical cancer is the leading cause of cancer mortality among women in India. Because Pap smear screening is not feasible in India, we need to develop effective alternatives.

Methods A cluster-randomized controlled study was initiated in 1998 in Mumbai, India, to investigate the efficacy of visual inspection with acetic acid (VIA) performed by primary health workers in reducing cervical cancer mortality. Four rounds of cancer education and VIA screening were conducted at 24-month intervals in the screening group, whereas cancer education was offered once at entry to the control group. The study was planned for 16 years to include four screening rounds followed by four monitoring rounds. We present results after 12 years of follow-up. Poisson regression method was used to calculate the rate ratios (RRs); two-sided χ^2 was used to calculate the probability.

Results We recruited 75 360 women from 10 clusters in the screening group and 76 178 women from 10 comparable clusters in the control group. In the screening group, we achieved 89% participation for screening and 79.4% compliance for diagnosis confirmation. The incidence of invasive cervical cancer was 26.74 per 100 000 (95% confidence interval [CI] = 23.41 to 30.74) in the screening group and 27.49 per 100 000 (95% CI = 23.66 to 32.09) in the control group. Compliance to treatment for invasive cancer was 86.3% in the screening group and 72.3% in the control group. The screening group showed a statistically significant 31% reduction in cervical cancer mortality (RR = 0.69; 95% CI = 0.54 to 0.88; $P = .003$).

20 years later, the breast cancer results kicked in – a 15% (non-significant) reduction in breast cancer mortality in the study population, with a 30% breast cancer mortality reduction in women >50 years

Effect of screening by clinical breast examination on breast cancer incidence and mortality after 20 years: prospective, cluster randomised controlled trial in Mumbai

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ABSTRACT

OBJECTIVE

To test the efficacy of screening by clinical breast examination in downstaging breast cancer at diagnosis and in reducing mortality from the disease, when compared with no screening.

DESIGN

Prospective, cluster randomised controlled trial.

SETTING

20 geographically distinct clusters located in Mumbai, India, randomly allocated to 10 screening and 10 control clusters; total trial duration was 20 years (recruitment began in May 1998; database locked in March 2019 for analysis).

RESULTS

Breast cancer was detected at an earlier age in the screening group than in the control group (age 55.18 (standard deviation 9.10) *v* 56.50 (9.10); P=0.01), with a significant reduction in the proportion of women with stage III or IV disease (37% (n=220) *v* 47% (n=271), P=0.001). A non-significant 15% reduction in breast cancer mortality was observed in the screening arm versus control arm in the overall study population (age 35-64; 20.82 deaths per 100 000 person years (95% confidence interval 18.25 to 23.97) *v* 24.62 (21.71 to 28.04); rate ratio 0.85 (95% confidence interval 0.71 to 1.01); P=0.07). However, a post hoc subset analysis showed nearly 30% relative reduction in breast cancer mortality in

One man. With a vision. And the belief. Saving thousands of lives of women with breast and cervical cancer. Folks, salute the indomitable Prof Indraneel Mittra

