

Breast cancer screening

Women's perspectives

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What does Women consider ?

- **Why to screen**
 - Benefits
 - Harms : overdiagnosis, over treatment, false + results
 - Balance
 - Worth to screen: own risk assessment: risk stratification
 - Informed consent: with reference to guidelines + trial results
- **How to screen**
 - When to start
 - Where to screen
 - What modalities
 - Setting; expertise, onsite reading, result explanation
 - Organised screening vs opportunistic screening
 - Cost

Table. Summary of Benefits and Harms of Screening^a

	Risks by Age, y	
	40-49	50-59
Benefit ⁴		
Reduced 10-y chance of dying from breast cancer		
No screening	3.5/1000	5.3/1000
Screening	3.0/1000	4.6/1000
Avoid breast cancer death because of screening	0.5/1000	0.7/1000
Harms of screening		
False-positive screening test requiring a biopsy ^{4,10}	60-200/1000	50-200/1000
Overdiagnosis—unnecessary diagnosis and treatment (surgery, chemotherapy, or radiation) for breast cancer ^{7,8}	1-5/1000	1-7/1000

Benefits of Screening

- Screening for breast cancer has been evaluated by 9 randomized trials over 5 decades and recommended by major guideline groups for more than 3 decades.
- Overall reduction in breast cancer mortality by 25-30% in randomized controlled trials for age 50-69 (WHO 2002)

benefits

- estimated that without screening, 3.5 of 1000 women in their 40s will die of breast cancer over the next 10 years
- Screening reduces the chance of breast cancer death from 3.5 to about 3 of 1000.

- The most recent meta-analysis found that breast cancer mortality reduction among women invited to screening :-
 - 15% for women aged 39–49 years,
 - 14% for women aged 50–59 years,
 - 32% for women aged 60–69 years

Reason for screening women aged 40-49

- Life-year saved is more for younger age, not just measuring reduction in breast cancer mortality
- 34% total life loss from CA breast
- Incidence in HK before age 50 equal to after 50
- Higher False +, less sensitivity (supplementary USG; digital MMG)
- Shorter interval yearly screen
- screening should be made available

Harm: false +

- Radioation risk : minimal , safety confirmed
- 50-200/1000 screens
- possible harmful effects of false-positive results
 - Recalls, interventions, anxiety
- 91%–98.6% of abnormal mammograms are false+
- Follow-up testing after false + tests adds about 33% to the cost
- higher levels of distress and anxiety
- think more about breast cancer,
- increase subsequent use of screening mammography
- women viewed false positives as acceptable consequences

False +

- 40% of women who had a false-positive mammogram result described the experience as “very scary”
- all said they were glad they had undergone the test
- $>1/3$ reported they would tolerate $>10\ 000$ false-positive mammograms for every breast cancer death avoided

Harm: anxiety

- anxiety was highest for women who needed biopsy
- second-highest among women asked 6 month follow up
- Only those women for whom onsite reading and immediate follow-up were available had lower anxiety scores

Overdiagnosis

- “earlier a cancer is found, the better the chance of cure”
- cancers found on screening that will not cause death or symptoms if left alone
- unnecessarily diagnosed, undergo treatment that can only cause harm, and must live with the ongoing fear of cancer recurrence
- Incidence of DCIS increased after screening
- not possible to know which women are overdiagnosed as all are treated up to 24%

overdiagnosis

- in the clinical trials, breast cancer diagnosis in the screened group remained persistently higher even after many years. This persistent difference represents overdiagnosis
- Based on 15-year follow-up of the Malmö trial, 2 women are overdiagnosed for every breast cancer death avoided. Gøtzsche et al estimated this ratio to be 10 to 1.

Overdiagnosis: women's belief

- Only 7% of women believes in possibility if breast cancers that grow so slowly that even without treatment a woman's health would not be affected

Different women will interpret the benefits and harms of screening differently

- With the help of her physician, needs to consider these harms and benefits and decide whether to undergo screening
- The benefits and harms of screening vary with age
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- The USPSTF concluded that benefit outweighs harm for aged 50 to 74 years, probably for women younger than 50

Informed Choice for Breast Screening

- Evaluation of effectiveness of screening – clinical, epidemiological, economic data
- Possibly with risk stratifications
- Women's perspectives and preferences
- Survey of 500 people (Schwartz 2004)
 - 87% routine cancer screening is a good idea
 - 56% wanted to be tested even for slow growing cancer

Risk stratification ?

- Personal risk assessment
- Family history, menstrual history, reproductive history
- Recommendation for screening
 - Higher risk individuals more likely to have benefits outweighing harms

Table 1

Women's perspectives on breast cancer screening: quotations from selected literature.

Theme	Example statement about breast screening
Enthusiasm for testing	I feel that it is very important whether you are 30 or...80 [that] you have any tests that you can.
Value of reassurance	I do know that an intelligent person needs the tests routinely, just to make sure everything is cool. [The] greatest benefit is learning you don't have cancer.
Attitudes to risk	It makes you really happy when you get that piece of paper that says you don't have anything. If someone objected to having it done, why they're taking their own life in their hands I guess. Even if statistical risk [of getting breast cancer] is low I still want screening, there is still a chance. Better to be safe than sorry.
Trust vs. scepticism	It must be really good, otherwise they wouldn't have it. I interpret it that they're lying, pure and simple, [when they say] that it's not useful. If the experts can't agree, it's worth doing a screening.
Perceptions of sensitivity	...whereas mammography, you know nothing was missed. I always wondered if something could have been missed...
Anxiety about results	I feel a bit hesitant...about too many check-ups. I think that it sometimes can raise so much worry. Is it or isn't it, do I have this? ... The recalls are traumatic... I try not to worry about it, but I still do.
Critical views on testing	Personally I am of the opinion that you shouldn't cross your bridges until you come to them. If it's the case that you don't feel anything from it, then you should let sleeping dogs lie.