

Second National Doctors of Nursing Practice
Conference: Defining Ourselves

Addressing Health Literacy in the Mammography Educational Materials

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Learner Objectives

- Define literacy and health literacy
- Discuss the importance of using literacy-appropriate educational materials in influencing health care outcomes
- Identify tools for use in your practice that will assist you in selecting literacy-appropriate educational materials for your patients.

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Introduction

Breast cancer is a major health problem for women in the U. S.



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Mammography Benefit

Mammography is effective in reducing mortality

- by 20 to 35% in women ages 50-59
(Fletcher & Elmore, 2003)
- by 20% in women ages 40-49
(Elmore et al, 2005)

Mammography is effective in reducing morbidity (Tabar, 2003)

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Mammography Screening

Regular screening is recommended beginning at age 40

U.S. Preventive Services Task Force, NCI, CDC, AMA, ACOG, ACS, and other groups

Every 1-2 years



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Mammography Screening

Women are not having mammograms

- BRFSS, 2004

58% - had a mammogram in past yr

- National Health Interview Survey, 2005

(Breen et al, 2007)

66% - had a mammogram in past 2 years

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Mammography Screening

Women 40 yrs and older reporting having had a mammogram in the previous 2 yrs by characteristics.

(Breen et al., 2007)

< high school education	57%
no health insurance	41%
recent immigrants to U.S.	39%

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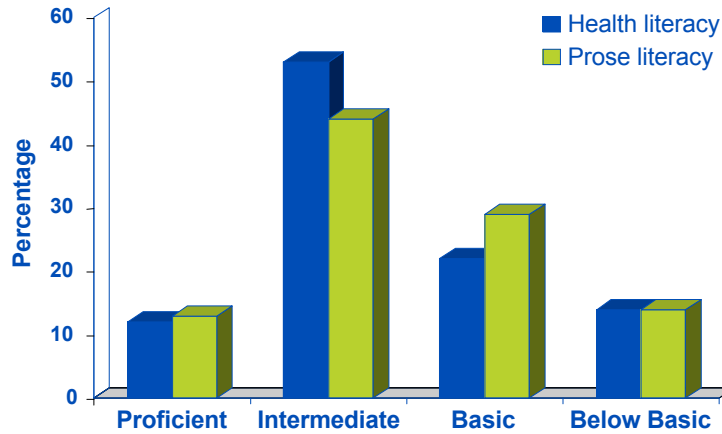
Mammography Behaviors

Mammography behaviors are complex

- Beliefs and attitudes influence mammography behaviors
(Austin, 2007)
- Common barriers and benefits have been identified
(Champion, 1999; Thomas, 2004)
- Preventive health strategies can influence behaviors
(NCI, 2008)

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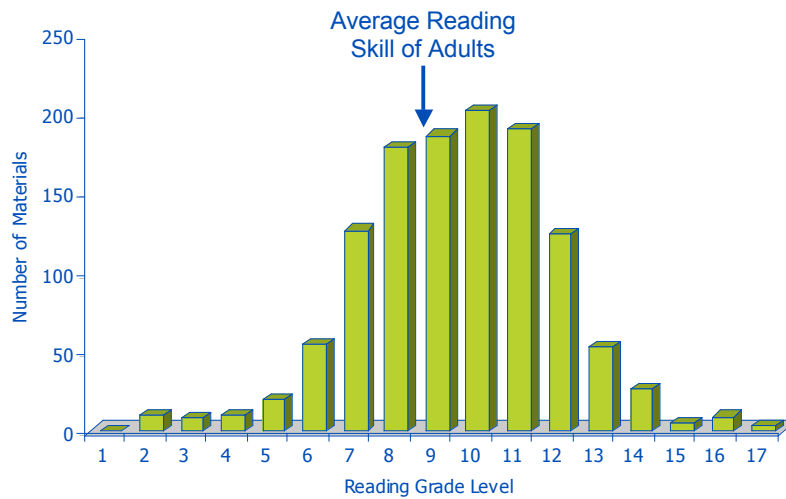
National Assessment of Adult Literacy (NAAL) Survey, 2003



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Kutner et al, 2006

Readability of Health Education Materials



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(Doak, 1996; Rudd, 2000)



Health Literacy and the American Cancer Society (ACS)

- ACS has long history of responding to educational needs of the public and health professionals
- 2008 survey of 42 materials
 - 64% written at 10th RGL or higher
- ~36% of U. S. adults likely cannot understand ACS information

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Goals and Objectives

Practice change long-range goal

To increase literacy-appropriate information for health professionals to use in their practice

Aim

To assess the effectiveness of a literacy-appropriate educational booklet on women's beliefs and attitudes about getting a mammogram

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Study Questions

After reading a low-literacy educational brochure:

- Is there a change in women's:
 - Perceived susceptibility and seriousness of breast cancer?
 - Perceived mammography benefits and barriers?
 - Motivation to have a mammogram?
- Is there an association between women's satisfaction with a low-literacy brochure and their reading level?

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Literature Review - Screening and Literacy

Functional health literacy associated with not having mammogram and less mammography knowledge

(Guerra, 2005; Scott, 2002; Davis, 1996)

Negative mammography beliefs prevalent among low reading level women

(Davis, 1996)

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Review - Literacy and Preventive Health Interventions

Limited availability of literacy-appropriate screening materials

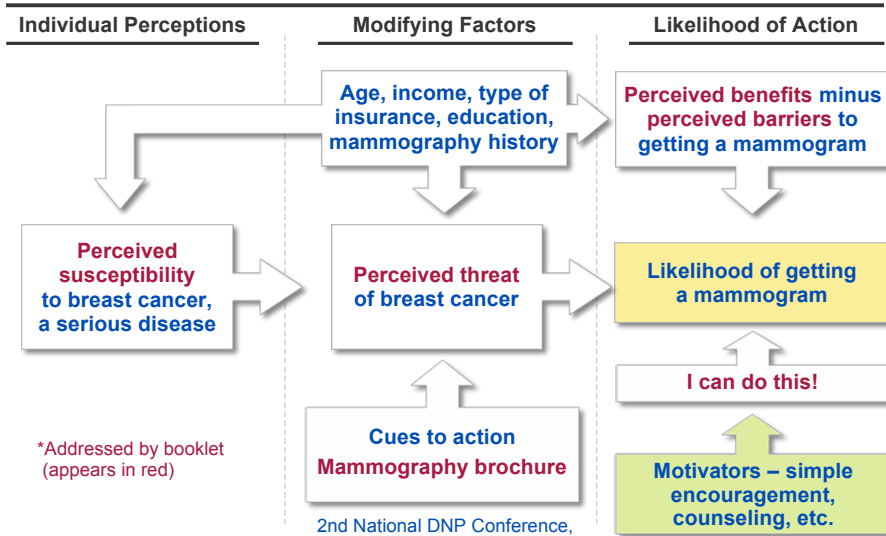
(Coleman, 2000; Morhman, 2000; Glazer, 1996)

Better comprehension with literacy-appropriate information

(Davis, 1996; Meade, 1994)

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Health Belief Model and Mammography Behaviors



Adapted from the Health Belief Model (Janz & Becker, 1984)



Methodology - Setting and Population

- Women who had not had a mammogram in past 2 years
- 5 non-health care facilities in Southeast and Midwest
- Pre-test/post-test one group design

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Methodology - Brochure Development

From ACS booklet:

Myth: If I'm going to get breast cancer, there is nothing I can do about it.

Yes, there is. While we still do not know how to prevent breast cancer, we do know that early detection can improve a woman's chances for beating the disease. A mammogram can find a tumor much earlier than you or your doctor can feel it. When breast cancer is found early, a woman increases her chances for successful treatment. Surgery often can remove the early breast cancer or just a small amount of the breast. Early detection means that a woman's chances for saving her breast are better.

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Methodology-Brochure Messages

Perceived risk –

“You know I just turned 40. It’s time for my mammogram.”

Perceived seriousness and benefit –

“...if I have breast cancer, I’d rather find it when it is small. Then my chances of living and not losing my breast are good.”

Self-efficacy –

“I want to take care of my health. My family needs me.”

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ACS Mammography Brochure

Let's Talk about Mammograms

Mary: Wow – you know I just turned 40, it's time for my mammogram.

Yolanda: You just left... the child of what they might find!

Mary: I know what you mean. But if I have breast cancer, I'd rather find it when it is small. Then my chances of living and not losing my breast are good. I want to take care of my health – my family needs me.

Yolanda: That makes sense to me. I would rather know and live!

Why should I have one?

- As you get older, your chances of having breast cancer go up, and women can get breast cancer even after menopause.
- Even if you have no signs or lumps in your breast, you should have a mammogram every year.
- Even if you have no breast cancer in your family, you still need a mammogram every year.
- If you do have breast cancer, finding it early could help you live to do the things that are important to you.

1.800.227.2345
www.cancer.org

I have heard it hurts.
When the plates press your breast, this "squeeze" might hurt for a minute. Some women say that it is painful; others say that it doesn't hurt at all.

What happens if they find something?
If something is seen on the mammogram, it doesn't mean that you have breast cancer. You might have more x-ray pictures or other tests. Then your doctor can make the best plan for you.

How much does a mammogram cost?
Most health plans and Medicare cover the cost of mammograms. If you have Medicaid or have no insurance, you may be able to get a mammogram in your state. Check with your health department.

To get my mammogram I should ask:

- My doctor or nurse
- My local health center or women's clinic
- Or call us at 1-800-227-2345 and ask for help finding one!

What is a mammogram?
A mammogram is an x-ray picture of your breast. It can find breast changes that are too small for your doctor or nurse to feel.

How is a mammogram done?
You stand in front of the x-ray machine and place your breast between two plastic plates. These plates press each breast to make it flat to get a good picture.

Remember:

- Anyone can get breast cancer. But your chances of getting breast cancer go up as you get older.
- Most breast cancers can be found with a mammogram when the cancer is small.
- If breast cancer is found when it is small, you can get treatment that can save your life.

Steps I'm willing to take for my health:

- I will call 1-800-227-2345 to find out more about mammograms and breast cancer.
- I will ask my doctor or nurse how to get a mammogram.
- I will schedule my mammogram.
- I will call if I do not get the results of my mammogram.

For more information, please call us anytime day or night at 1-800-227-2345.

1.800.227.2345
www.cancer.org
Hope Progress Answers™

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Methodology

Intervention

- Post flyers
- Obtain consent
- Complete demographic form
- Complete pre-test questionnaire
- Read mammography brochure
- Complete post-test questionnaire
- Complete REALM test for Health Literacy

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Instruments

Champion's Health Belief Model Scales

([CHBMS], 1994, 1999)

- Measures beliefs about breast cancer and screening
- Five Subscale Domains
 - Perceived susceptibility
 - Perceived seriousness
 - Mammography benefits
 - Mammography barriers
 - Health motivation

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Examples of Survey Items

Susceptibility (5)

- It is very likely I will get breast cancer in the future.
- I am more likely than most other women to get breast cancer.

Seriousness (7)

- The thought of breast cancer scares me.
- If I had breast cancer, it would affect my relations with my boyfriend, husband, or partner.

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Examples of Survey Items

Benefits (7)

- When I get a mammogram, I won't worry as much about breast cancer.
- . . . it lowers my chances of dying of the disease.

Barriers (5)

- Having a mammogram would make me worry about breast cancer.
- . . . cost too much money.
- . . . be painful.

Health Motivation (5)

- I want to find health problems early.
- I have regular health check-ups even when I am not sick.

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Instruments-REALM

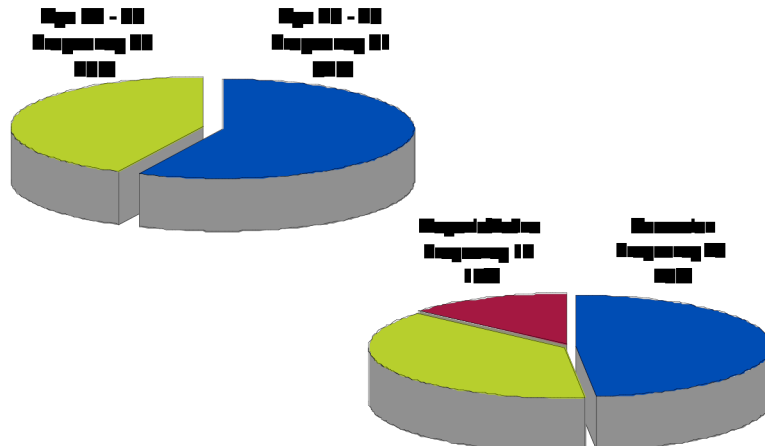
Rapid Estimate of Adult Literacy in Medicine

(REALM); Davis,1993)

fat	gallbladder	colitis
stress	abnormal	osteoporosis
smear	nausea	alcoholism
hormones	nutrition	testicle

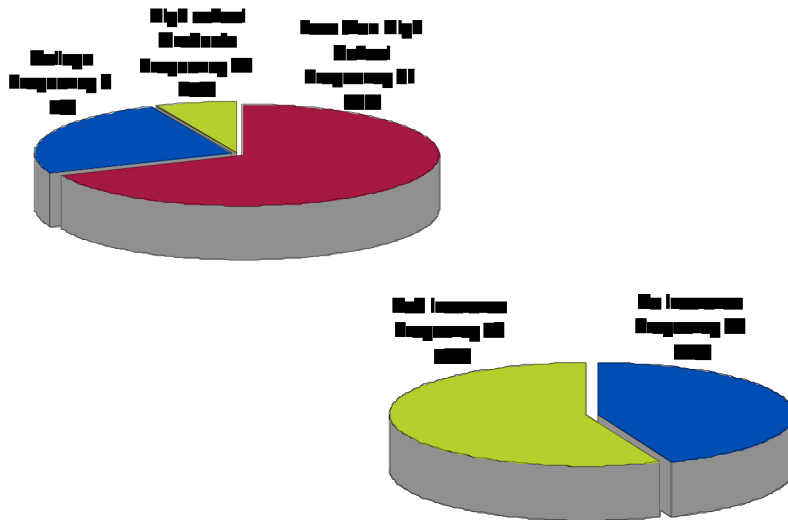
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Demographics: Age and Race/Ethnicity (N=89)



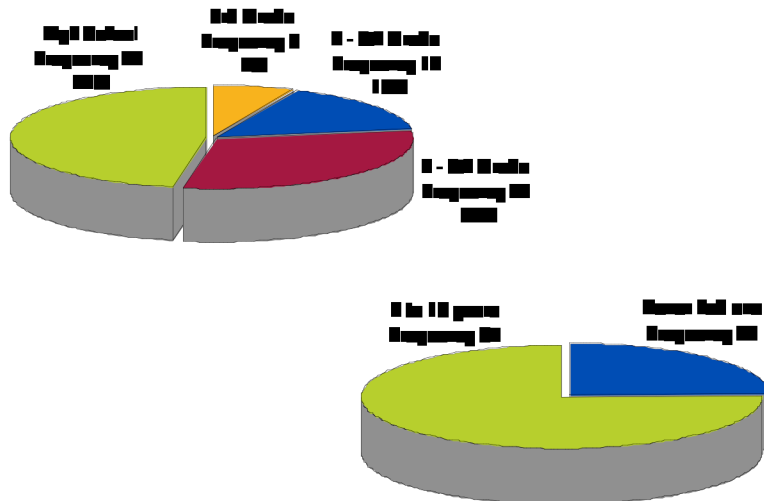
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Demographics: Education and Insurance (N=89)



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REALM Score and Last Mammogram (N=89)



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Subscale Scores

Subscale Domain	Pre-Test		Post-Test		Paired t-test
	Mean	SD	Mean	SD	(t) P-value
Perceived Susceptibility	3.37	0.90	3.20	0.89	0.013*
Perceived Seriousness	2.63	0.72	2.73	0.79	0.08*
Health Motivation	2.06	0.48	2.05	0.51	0.519
Perceived Mammogram Benefits	2.28	0.65	2.15	0.69	<0.001*
Perceived Mammogram Barriers	3.65	0.74	3.68	0.68	0.570

* p<0.1

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Multivariate HLM Analysis

Subscale Domain	Pre/Post-Test	
	Mean Difference	p-value
Increased Susceptibility	0.17	0.008*
Decreased Seriousness	-0.08	0.077*
Increased Benefit	0.14	<0.001*

p<0.1

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Independent Variables

Older Age

lower perceived susceptibility ($p < 0.001$)
lower perceived seriousness ($p = 0.074$)

Lower REALM Scores

higher perceived seriousness ($p = 0.004$)
greater perceived susceptibility ($p = 0.001$)
greater perceived mammography barriers ($p < 0.001$)

No insurance

higher perceived benefits ($p = 0.093$)
lower perceived barriers ($p < 0.001$)

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Satisfaction

Brochure appeal, comprehension, and utility

- Women were satisfied to highly satisfied
- Satisfaction not associated with REALM ($p = 0.727$; $p < 0.1$)

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Research Questions

After reading a low-literacy educational brochure, was there a change in women's:

- perceived susceptibility of breast cancer?
Yes ($p=0.013$)
- perceived seriousness of breast cancer?
Yes ($p=0.08$)
- perceived mammography benefits?
Yes ($p<0.001$)
- perceived mammography barriers?
No

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Research Questions

After reading a low-literacy educational brochure:

- Was there a change in women's motivation to have a mammogram?
No
- Was there an association between women's satisfaction with a lower literate brochure and their reading level?
No

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Discussion

1. Women perceived breast cancer as being less serious after reading the brochure
2. Women perceived greater susceptibility after reading the brochure
3. Older age was associated with lower susceptibility/seriousness
4. Lower REALM scores were associated with greater seriousness, susceptibility and barriers
5. No insurance was associated with higher benefits and lower barriers
6. Patient satisfaction was high and not associated with REALM scores

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Limitations

- Convenience sample
- Consent form
- Amount of reading required
- Recruitment of lower health literate subjects
- Looked only at print materials

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Implications for Practice

1. Evidence that literacy is related to health behaviors
2. Limited evidence of effective preventive health interventions for lower literate adults
3. Health professionals need to understand health literacy
4. Health professionals must use literacy-appropriate materials when counseling their patients
5. Further research – susceptibility and older women

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Thank you

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