



**ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ
ΤΜΗΜΑ ΙΑΤΡΙΚΗΣ**



**ΣΤΑΣΕΙΣ ΚΑΙ ΠΕΠΟΙΘΗΣΕΙΣ ΣΧΕΤΙΚΑ ΜΕ ΤΗΝ
ΜΑΣΤΟΓΡΑΦΙΑ
ΓΥΝΑΙΚΩΝ ΜΕΣΗΣ ΗΛΙΚΙΑΣ ΚΑΙ ΙΑΤΡΩΝ ΣΤΗΝ
ΚΡΗΤΗ**

ΤΡΙΓΩΝΗ ΜΑΡΙΑ

**Κλινική Κοινωνικής και Οικογενειακής Ιατρικής
Τομέας Κοινωνικής Ιατρικής
Ιατρική Σχολή
Πανεπιστήμιο Κρήτης**

Ηράκλειο, Απρίλιος 2009

_____:

,
, /

_____:

,
, /

,
, /

:

1. ,
2. ,
3. ,
4. ,
5. ,
6. ,
7. De Bree Elco,

í í ..

í í .

í í í í í í í ..

í í í í í í í

í í í í í í ..

Summary

Resume detaille

1.

1.1

1.1.1

1.2

1.2.1

1.2.2

1.2.3

1.2.4

1.2.5

1.2.6

1.3

1.4

2.

3.

3.1

3.2

3.3

3.4

4.

4.1

4.2 «

4.3

4.4

4.5

5.

5.1

5.1.1

5.1.2

5.1.3

5.1.4

5.2

5.3

5.4

6.

6.1

6.2

7.



1. English version: Health Professionals Interview Schedule

2. English version: Midlife Women Interview Schedule

3.

4.

5. 2 ó : English version: Cancer

control practices in Western New York

6. 2 ó : :

’ . ’ , ’ .

’ .

’ .

’ , 21 , 1 9 .

« »

;

;

;

∅

, , ,

∅

.

,

.

of Warwick, UK, Frances Griffiths, University
Eileen Green, University of Teesside, UK

UK

,
,

University of Hertfordshire, UK,

Eric,

Diana Thompson,

UK,

UK.

New York at Buffalo
control practices»,

Martin Mahoney

State University of
«Cancer

∅

:

14

(.)

()

/

/

/

,

/

. Cece Kidwell,

. «

»

: «

í .

Ø

».

#1:

Trigoni M, Griffiths F, Tsiftsis D, Koumantakis E, Green E, Lionis C.:
Mammography screening: views from women and primary care physicians in Crete.
BMC Women's Health. 2008 Nov 7;8:20.

#2:

Maria Trigoni, Martin C. Mahoney, Joanna Moschandreas, Adelais Markaki, Christos
Lionis: «*Cancer control practices*»: Translation and cultural adaptation of an
instrument in Crete, Greece.
Journal of Cancer Education (, 23 2007 ó in
the press)

#3:

Trigoni M, Griffiths F, Tsiftsis D, Koumantakis E, Green E, Lionis C.:
Mammography screening: views from women and primary care physicians in Crete.
BMC Women's Health. 2008 Nov 7;8:20.

#4:

Trigoni M., Mahoney MC, Moschandreas J, Tsiftsis D., Koumantakis E., Lionis C:
Breast cancer screening knowledge among rural primary care physicians in Crete,
Greece.
Health and Social Care in the Community (, 6
2009)

#5:

Trigoni M., Mahoney MC, Moschandreas J, Tsiftsis D., Koumantakis E., Lionis C:
Breast cancer screening knowledge among rural primary care physicians in Crete,
Greece.
Health and Social Care in the Community (, 6
2009)

- 1. , , .
- 2. , .
- 3. .
- 4. .

5.

6.

(:)

Cancer control practices in Western New York

: 14 (.)

:

- 2004 45-65 ,
- (.) ,
- (=151), (=91 1 =15) 14 . . 2004. 45

:

- 8 2005 28 2005 45-65 ,
- , , ,
- 8 pilot test (19) test re-test

: (9),
 (7), (6),
 (5), (4),
 (2), (4),
 (1), (4), (2).
 (20),
 (16).
 (23),
 (14), (9),
 (8), (12), (6), (2),
 (3), (8),
 (4), (16), (8),
 (16).
 30, 28,
 6, 9, 30,
 29, 7, 17,
 : ó (17), (12), (17),
 (9), (8),
 (8), (4), /
 (3).
 16
 15
 : / (13),
 (6), (5),
 (5) ((5),
 (4), (2), (2), (2),
 (2), (1). (2),

83
 31% 58% 14%

4%

78% 94%

: 41% , 36%

ó

(. ó

,

.

.

,

∅

.

SUMMARY

Introduction

Breast cancer is the most commonly diagnosed cancer among women and a leading cause of death in both developed and developing countries. Although the use of mammography seems to be effective in mortality reduction, and there is extensive evidence on the importance of pre-symptomatic screening programmes, Greece has no national breast cancer screening programme for women, except some isolated local activities. Especially in primary health care (PHC), participation of women in these programmes is low and there is no data available with regards to women undergoing periodic mammography screening. Despite efforts to improve the knowledge and skills of public health professionals in carrying out breast cancer screening preventive programmes, the Greek reality remains far from the systematic implementation of national guidelines for breast cancer screening. In Crete, to date, factors that influence the use of mammography have not been investigated.

The aims of this study were the following:

1. To examine the attitudes, beliefs and knowledge of midlife women in Crete about the use and value of mammography.
2. To investigate the degree to which the different social-economical factors affect the knowledge, attitudes and practices of these women in the use of mammography.
3. To present the most common reasons that women mention for refusing mammography and what influences their views.
4. To set out the reasons that health professionals consider responsible for refusal of mammography use and to which degree they are able to affect it.
5. To examine the degree to which physicians follow the international guidelines about the use of mammography and what practices they should follow to affect it.
6. To investigate the degree to which physicians inform women about the benefits and risks from the use of mammography.

Methods

The study was conducted with semi-structured individual interviews. Two interview schedules were used (one for physicians, and one for women). In addition, we used the questionnaire *“Cancer Control Practices”* (CCP), developed in the USA, after it was translated and validated according to international standards, and completed as a self-administered survey to investigate physicians' knowledge.

Setting

The study was conducted in the 14 primary health care centers (PHCCs) that serve the rural population of Crete and in the outpatient clinics of University Hospital of Heraklion, Crete.

Participants:

Primary Health Care Centres of Crete

A. Interviews

March to April 2004

- Thirty women 45-65 years of age, permanent residents of rural areas of Crete, attending a regular check-up appointment with a GP or internist.
- Twenty-eight qualified primary care physicians serving this rural population, selected at random and recruited on the morning shift for an interview.

B. Questionnaire

- All 106 general practitioners (n=91) and internists (n=15), employed as of October 2004 and practicing at participating PHCCs were included. In addition, we included a random sample of 45 trainee general practitioners (GPs) from a total of 83 working at the 14 PHCCs of Crete.

University Hospital of Heraklion

A. Interviews

April 8 to June 28, 2005

- Thirty women 45 - 65 years of age, permanent residents of Heraklion, selected at random and recruited from the list of regular appointments at hospital clinics.
- Sixteen randomly selected physicians from the respective clinics of University Hospital.

B. Questionnaire

- 8 physicians for pilot test
- All trainee GPs (19) for test, re-test

Results

A. Attitudes and practices of physicians and women

Of the 30 women in PHC settings, 15 had not used mammography, and very few of them had made the decision after being informed adequately or being given a recommendation by their physician. The principal barriers were: absence of symptoms (9), fear of radiation (7), lack of physician recommendation (6), pain from previous experience (5), fear of a serious diagnosis (4), lack of knowledge about the benefits (2), lack of free time and family obligations (4), embarrassment (4), living far away from the screening site (1) and the cost in private centers (2).

The majority of physicians (20) in PHC seemed to be well informed about mammography and recognized the importance of their recommendation (16). Five physicians mentioned lack of time for discussion with women due to a large number of patients. Only eight physicians stated that they recommend it to all women according to international guidelines. The factors affecting women's use of mammography were: socio-economic/demographic factors of women (23), lack of appointments and problems with waiting times in public hospital (14), the distance for elderly women (8), the cost in private centers (9), the absence of symptoms (12), cancer diagnosis in a family member or loved one (6), embarrassment (3), lack of time and family obligations (2), fear of diagnosis (4), fear of radiation (8), and physician's gender (16).

The results from University Hospital of Heraklion showed that out of 30 urban area women, 28 had used mammography at least once, either due to a diagnosis or for prevention. Of those 28, 6 had mammography regularly every year, 9 only once to date, and 7 had done it after symptoms and mastectomy. Eleven women made the decision alone or after encouragement from family or a friend or after a loved one had been diagnosed with breast cancer. Seventeen had been encouraged by a doctor. Factors affecting their attitude were the following: lack of recommendation or encouragement by physician or others (17), fear of diagnosis (17), good physical condition (lack of symptoms) (9), difficulties in access (appointments, waiting time, transportation problems, distance from mammography center) (8), lack of information (8), embarrassment (4), and family obligations (3).

In regards to hospital-based physicians, all were well informed about mammography and considered it a very important exam. Factors affecting mammography use by women according to physicians were: women's sociodemographic characteristics (13), lack of knowledge (6), negligence (5), difficulties in access related to waiting lists, waiting time and distance from hospital (5), radiation (5), pain caused by the procedure (4), fear of diagnosis (2), cost at private centers (2), family obligations (2) and lack of symptoms (1).

B. Physicians' knowledge

Our study demonstrates limited awareness of international guidelines on breast cancer screening among primary care physicians in Crete, Greece. In general, the level of physicians' knowledge for each of the four items was low, with agreement ranging from 31% to 58% for the individual breast screening items, indicating knowledge gaps in regard to timing and frequency of breast screening. Overall, respondents exhibited considerable variation in responses with just 4% answering all four items correctly, 25% answering three out of four items correctly, and 14% failing to answer any item correctly. No differences were noted between responses to the knowledge items and demographic characteristics of physician respondents. The majority of them (78%- 94%) did not discuss the benefits and the risks of the use of mammography screening with women patients. Insufficient time (41%) to discuss mammography screening and poor office organization (36%) were cited as the most important barriers to recommending cancer-screening services.

Discussion - Conclusion

According to our study, rural women do not use mammography frequently, and they are not as familiar with it as urban women. There is a difference between them in their knowledge of the usefulness of mammography, despite the fact that a large number of urban women had used it for diagnosis rather than prevention. Both groups of women usually decided on the use of mammography on their own or after encouragement from a friend or family member, or when they already had some symptoms. Most of the women knew about mammography and were interested in having mammography screening, but few women, especially in rural Crete, were able to take an adequately informed decision about it.

Our study identified the subtle interplay of complex factors from both women and physicians' perspectives that affect the use of mammography; these concern women's attitudes, practices that physicians follow, and the country's health care policy. Both

groups (women and physicians) mentioned barriers to the use of mammography. Women most often identified the absence of symptoms, their good physical condition, fear of diagnosis, negligence in regards to preventive health issues, embarrassment, and family obligations. Other factors preventing mammography use were: physicians' practices, such as not giving a recommendation and not informing women adequately, difficulties gaining access to services, long waiting times for appointments, distance, and the cost at private centers. It is worth mentioning how different socio-economic factors as well as the recommendation by a physician influenced the use of mammography. Another notable finding was the reported barriers to implementing cancer control services in clinical practices such as lack of time and lack of office organization. The majority of primary care physicians had limited awareness of international guidelines on breast cancer screening.

This innovative study, the first of its kind in Crete, provides valuable information about attitudes, knowledge and practices of both women and physicians regarding mammography screening. Despite several methodological difficulties it focuses on issues concerning the effective implementation of preventive breast cancer services. These findings indicate that there are several barriers impacting on the decision-making process, including clinicians' awareness of guidelines for breast screening, as well as those factors expected to influence the participation rate in the mammography screening. The barriers revealed by our study underline the necessity for a national pre-symptomatic screening programme for breast cancer prevention, implemented at a regional level for all eligible women.

The study was designed to deliver data through which to inform health policy for a serious public health issue. The study's findings provide health care providers and policy makers in Crete with evidence specific to their locality for the future development of a preventive programme of mammography screening.

RÉSUMÉ DÉTAILLÉ

Introduction

Sur le plan international le cancer du sein est celui qu'on rencontre le plus souvent chez les femmes aussi bien dans les pays développés que dans les pays en développement et il constitue la cause de décès la plus fréquente. Quoique l'utilisation de la mammographie semble être efficace pour réduire la mortalité et que dans la bibliographie on discute souvent de l'importance des programmes de dépistage de masse avant toute apparition de symptômes, on note en Grèce l'absence d'un programme national de dépistage du cancer du sein chez les femmes; on ne rencontre que des activités locales isolées et, là où on en trouve, il s'agit d'activités de petite envergure et sur une partie réduite de la population. En particulier, dans le domaine de soins de santé primaires le taux de participation des femmes à de tels programmes semble réduit; de même, il n'y a pas de données statistiques sur le taux de femmes qui se soumettent au dépistage périodique par mammographie. Même si des efforts sont faits pour améliorer les connaissances et les capacités des professionnels de santé et pour planifier et faire appliquer des programmes de prévention du cancer du sein dans le domaine de soins primaires, la réalité en Grèce est encore loin de l'application systématique des directives pour assurer le diagnostic précoce du cancer du sein. En Crète on n'a pas jusqu'à ce jour étudié les facteurs influençant l'utilisation de la mammographie.

Notre étude visait à étudier les comportements et les opinions des médecins ainsi que des femmes d'âge moyen en Crète concernant la mammographie, enregistrer et noter les priorités des femmes concernant l'utilisation ou pas de la mammographie, ainsi que leur source d'information, étudier les pratiques des médecins quant à l'application des directives et leur rôle sur la décision de la femme, et enfin, noter les facteurs qui influencent son utilisation et empêchent l'application efficace des pratiques préventives du cancer du sein, ainsi qu'examiner les difficultés rencontrées par les femmes d'âge moyen des régions rurales de Crète qui souhaitent passer une mammographie.

L'objectif de l'étude était de:

1. examiner les comportements, les idées reçues et les connaissances des femmes d'âge moyen en Crète concernant la pratique et la valeur de la mammographie;
2. étudier dans quelle mesure les différents facteurs socioéconomiques influencent les connaissances, les comportements et les pratiques de ces femmes vis-à-vis de la mammographie;
3. enregistrer les motifs invoqués le plus souvent par les femmes pour ne pas passer une mammographie, motifs susceptibles de peser sur leurs opinions;
4. exprimer les raisons pour lesquelles, selon les professionnels de santé, ces femmes refusent de passer une mammographie et dans quelle mesure ces raisons sont susceptibles de les influencer;
5. examiner dans quelle mesure les médecins suivent les directives concernant l'utilisation de la mammographie et quels sont les procédés employés en vue d'influencer les femmes;

6. étudier dans quelle mesure les médecins informent les femmes des bénéfices et des risques consécutifs à l'utilisation ou pas de la mammographie.

La Méthode: Des interviews ont eu lieu à l'aide des deux questionnaires à moitié structurés (pour les médecins et les femmes). De même, un questionnaire d'origine américaine intitulé « *Cancer control practices in Western New York* » a été utilisé. Ce questionnaire avait été sélectionné et, une fois traduit et adapté à la culture du pays, il a été appliqué pour enregistrer les connaissances des médecins.

L'Endroit: L'étude a été effectuée dans les 14 Centres de Santé (C.S.) de Crète et dans les cabinets médicaux de l'Hôpital Universitaire de Crète [PAGNI].

La Population étudiée:

Dans les Centres de Santé :

a. Interviews

De mars en juin 2004

- Trente femmes, de 45 à 56 ans, résidant en permanence dans la zone de responsabilité du Centre de Santé, qui avaient un rendez-vous programmé de consultation avec un médecin généraliste ou de médecine interne faisant partie du Centre de Santé
- Vingt-huit praticiens de médecine interne et de médecine générale, sélectionnés au hasard parmi les membres du personnel des cabinets du matin, qui travaillaient à titre permanent dans les Centres de Santé lors de la période étudiée.

b. Questionnaire

- Tous les médecins ($n=151$), (de médecine générale $n=91$ et de médecine interne $n=15$), des 14 Centres de Santé de Crète, travaillant à titre permanent du 1^{er} octobre jusqu'au 30 novembre 2004. En outre, y ont participé 45 médecins en stage obligatoire dans la campagne, qui travaillaient dans les cabinets périphériques des Centres de Santé, sélectionnés au hasard.

Dans l'Hôpital Universitaire de Crète [PAGNI] :

a. Interviews

Du 8 avril 2005 au 28 juin 2005

- Trente femmes, de 45 à 56 ans, habitantes de la ville d'Héraklion, ayant un rendez-vous programmé de consultation dans les cabinets du PAGNI, ont été appelées à participer, suite à une sélection au hasard parmi les personnes figurant sur la liste des rendez-vous.
- Seize médecins appartenant au personnel permanent des cliniques du PAGNI, sélectionnés au hasard d'une liste sur laquelle figuraient les noms des membres du personnel de ces cliniques.

b. Questionnaire

- 8 médecins pour le *pilot test*
- tous les médecins généralistes (19) pour le *test re-test*

Résultats

a. Comportements et pratiques des médecins et des femmes

Selon les résultats obtenus dans les Centres de Santé, parmi les 30 femmes étudiées 15 n'avaient jamais passé une mammographie et celles qui décidaient de la passer suite à une information suffisante de la part de leur médecin étaient très peu nombreuses. Les obstacles principaux étaient l'absence de symptômes (9), la peur de l'irradiation consécutive à l'examen (7), l'absence de recommandation par un médecin (6), la douleur ressentie lors d'un précédent examen (5), la peur du résultat (4), le manque d'information sur la mammographie (2), le manque de temps et les obligations familiales (4), la pudeur (4), la grande distance des centres de mammographie qui se trouvent dans les villes (1), le coût dans les centres privés (2).

Dans leur majorité (20) les médecins des Centres de Santé se sont révélés bien informés de la mammographie et reconnaissent le rôle important de sa recommandation aux femmes (16). Cinq médecins ont dit ne pas avoir assez de temps pour en discuter en raison du grand nombre des malades dans les Centres de Santé. Seulement huit médecins ont dit préconiser la mammographie à toutes les femmes (selon les directives internationales). Parmi les facteurs qui influencent le dépistage ils ont énuméré des facteurs socioéconomiques/démographiques chez la femme (23), l'absence des rendez-vous de consultation et la longue attente dans les hôpitaux publics (14), la distance pour les femmes plus âgées (8), le coût de l'examen dans un centre privé (9), l'apparition de symptômes (12), ou le déclenchement de la maladie chez un membre de la famille ou chez un(e) ami(e) (6), la pudeur ressentie par les femmes (3), le manque de temps et les obligations familiales (2), la peur du résultat (4), la peur de l'irradiation due à l'examen (8) et le sexe du médecin (16).

De l'étude au sein de l'Hôpital Universitaire de Crète (PAGNI), parmi les 30 femmes de la région d'Héraklion étudiées, 28 avaient passé une mammographie au moins une fois. Parmi les 28 femmes qui avaient passé la mammographie, 6 en passaient une fois tous les ans, 9 en avaient passée une seule et 7 en avaient passée une suite à une intervention de mammectomie. Parmi les 30 femmes, 29 étaient assez bien informées au sujet de la mammographie. Onze femmes ont dit avoir pris de leur propre initiative la décision de passer une mammographie ou bien elles s'y sont décidées suite à l'incitation par une personne de leur entourage familial ou encore suite à l'apparition d'un cas de cancer du sein chez un membre de la famille, et 17 ont dit y avoir été incitées par un médecin. Les facteurs qui, selon elles, influencent sont: l'absence d'encouragement ou recommandation par un médecin ou par une autre personne (17), la peur du résultat (17), la négligence (12), des facteurs somatiques tels que le bon état physique de la femme, l'absence de symptômes (9), l'accès à l'examen (8) (longue liste d'attente, grande distance des centres de mammographie, problèmes de déplacement), manque d'information (8), pudeur (4), obligations familiales/sociales (3).

Parmi les 16 médecins de l'Hôpital Universitaire de Crète (PAGNI), tous étaient bien informés de la mammographie et la considéraient primordiale et reconnue sur le plan international. Quinze parmi eux la préconisent à toutes les femmes selon les directives internationales. Ils ont énuméré les facteurs suivants comme posant obstacle à l'utilisation de la mammographie par les femmes: des facteurs socioéconomiques/démographiques chez les femmes (13), l'absence d'information

(6), la négligence des femmes (5), l'accès difficile (5) (longue liste des rendez-vous, attente et problèmes lors des rendez-vous, grande distance de l'hôpital), l'irradiation (5), la douleur, l'expérience traumatisante d'un examen précédent (4), la peur du résultat (2), le coût dans les centres privés (2), les obligations familiales (2) et l'absence de symptômes (1).

b. *Connaissances des médecins*

Selon les résultats de l'étude le niveau des connaissances des médecins en soins primaires vis-à-vis des directives en vue de la prévention du cancer du sein et de l'utilisation de la mammographie n'était pas élevé. La plupart d'eux ne savaient pas quand exactement il fallait passer sa mammographie de référence ou la fréquence à laquelle il fallait la répéter. Parmi les 83 qui ont rempli le questionnaire un pourcentage de 31% à 58% a répondu correctement, 14% n'ont répondu correctement à aucune question portant sur leurs connaissances à l'égard des directives et seulement 4% ont répondu correctement aux quatre questions posées concernant leurs connaissances vis-à-vis des directives. On a constaté qu'il n'y avait pas de différence statistique selon le sexe, la spécialité et la qualité du médecin - titulaire d'un poste ou médecin interne -. De même, dans leur majorité - 78% à 94% - ils n'informent pas les femmes des bénéfices ou des risques consécutifs à la mammographie. Leurs principaux obstacles: pour 41% d'entre eux le manque de temps, pour 36% le manque d'organisation au cabinet.

Discussion ó Conclusions

Selon les résultats de cette étude, les femmes à la campagne semblent ne pas passer souvent la mammographie et ne pas être aussi familiarisées avec cet examen que les femmes dans la ville d'Héraklion; de même, il y a une différence quant à leurs connaissances sur l'utilité de la mammographie, malgré le fait que plusieurs femmes de la ville avaient passé une mammographie plutôt dans un but diagnostique que dans un but préventif. Dans les deux groupes, les femmes prenaient seules la décision de passer leur mammographie ou bien suite à l'incitation de la part d'un(e) ami(e) ou membre de la famille et consultaient le médecin lorsqu'elles avaient déjà présenté des symptômes. La plupart connaissaient la mammographie et y étaient intéressées, mais elles étaient très peu nombreuses, en particulier dans le milieu rural, à avoir reçu une information suffisante de la part de leur médecin pour se décider à passer l'examen.

Notre étude a révélé l'interaction des facteurs complexes qui influencent l'utilisation de la mammographie et se rapportent au comportement et aux opinions des femmes, les pratiques utilisées par les médecins, mais également la politique de la santé suivie dans notre pays. Aussi bien les groupes des femmes que ceux des médecins (Centres de Santé ó Hôpital PAGNI) ont cité les facteurs qui rendent difficile l'utilisation de la mammographie. L'absence des symptômes, le bon état physique des femmes, la peur du résultat, la négligence à l'égard des questions de santé et de prévention, la pudeur et les obligations familiales sont les motifs invoqués le plus souvent par les femmes pour éviter de se soumettre à la mammographie et ils influencent leurs opinions. Les pratiques médicales, telles que l'omission de prescrire la mammographie, l'information insuffisante des femmes, le difficile accès, la longue liste des rendez-vous, la distance et le coût de la mammographie dans un centre privé sont considérés des obstacles empêchant cet examen. Il est également à noter combien les différents

facteurs socioéconomiques et démographiques chez les femmes influencent l'utilisation de la mammographie. De même, la recommandation de la mammographie par le médecin s'est avérée un facteur important. Une révélation importante a été le manque d'implication réelle des médecins de soins primaires due au manque de temps et d'organisation du cabinet des programmes de prévention. La plupart des médecins en soins primaires n'étaient pas au courant des directives internationales quant au moment où il faut passer la mammographie.

Cette étude, réalisée pour la première fois en Crète, fournit des renseignements importants sur les attitudes, les connaissances et les pratiques des femmes et des médecins concernant l'utilisation de la mammographie et, au-delà des difficultés méthodologiques, elle s'est focalisée et a discuté des questions portant sur l'application efficace des services de prévention du cancer du sein. Les obstacles révélés par l'étude viennent souligner le besoin d'un effort continu du système de la santé en vue de l'application d'un programme complet de dépistage de masse chez les femmes asymptomatiques en vue de la prévention du cancer du sein. Il faut, donc, une politique systématique au niveau régional en vue de la prévention et des efforts continus pour assurer un dépistage préventif aux femmes qui remplissent les critères sans qu'il y ait une utilisation fragmentaire au sein d'un cadre commun d'action, en prenant en considération les facteurs qui influencent leur acceptation.

1.

1.1

« » « » ,
 , , , 1 .

1862,
1600 . .
 , « »¹ .

(5 . .) ,
 , 2,3 .
 , (460-377 . .)⁴ .
 « » « »

,
 ,
 ,
 , 4 . . ,
 , 1 .

De Medicina libri octoö () Autus Cornelius Celsus
(30-50 . .) (98-
115 . .)

« »⁵ . (180
 .)
(131-198 . .)

Rhazes

Abulcasis

Sorbonne

19 ¹ .

1.1.1

6,7,8,9,10,11

O , , 35-55 12,13

Cancer Society, 1.301.867 14 2007, American
40.480 15,16 465.000 182.460

7,17,18 17,18

15

17 American Cancer Society 1990

14,19
(IARC) (. . .), 2000
216.000 ,
79.000¹⁴, 26,5%

17,5% 20
: 2002,
269.570 87.770 ,

13 35-55

		(100.000
)	2000		(91,6),	(86,2),
(83,2),	(82,2)	(81),		(47,6)
	(47,9),			.
(39,8)	(42,2)			.
			1,5 %	²¹ .

(),

,

,

,

2004

25.448 ²².

1.500-1.800

,

/

,

.

1 12

²³.

,

1996²⁴

,

2003

4.500

100.000 81,8 21,7 2006 ¹⁴,

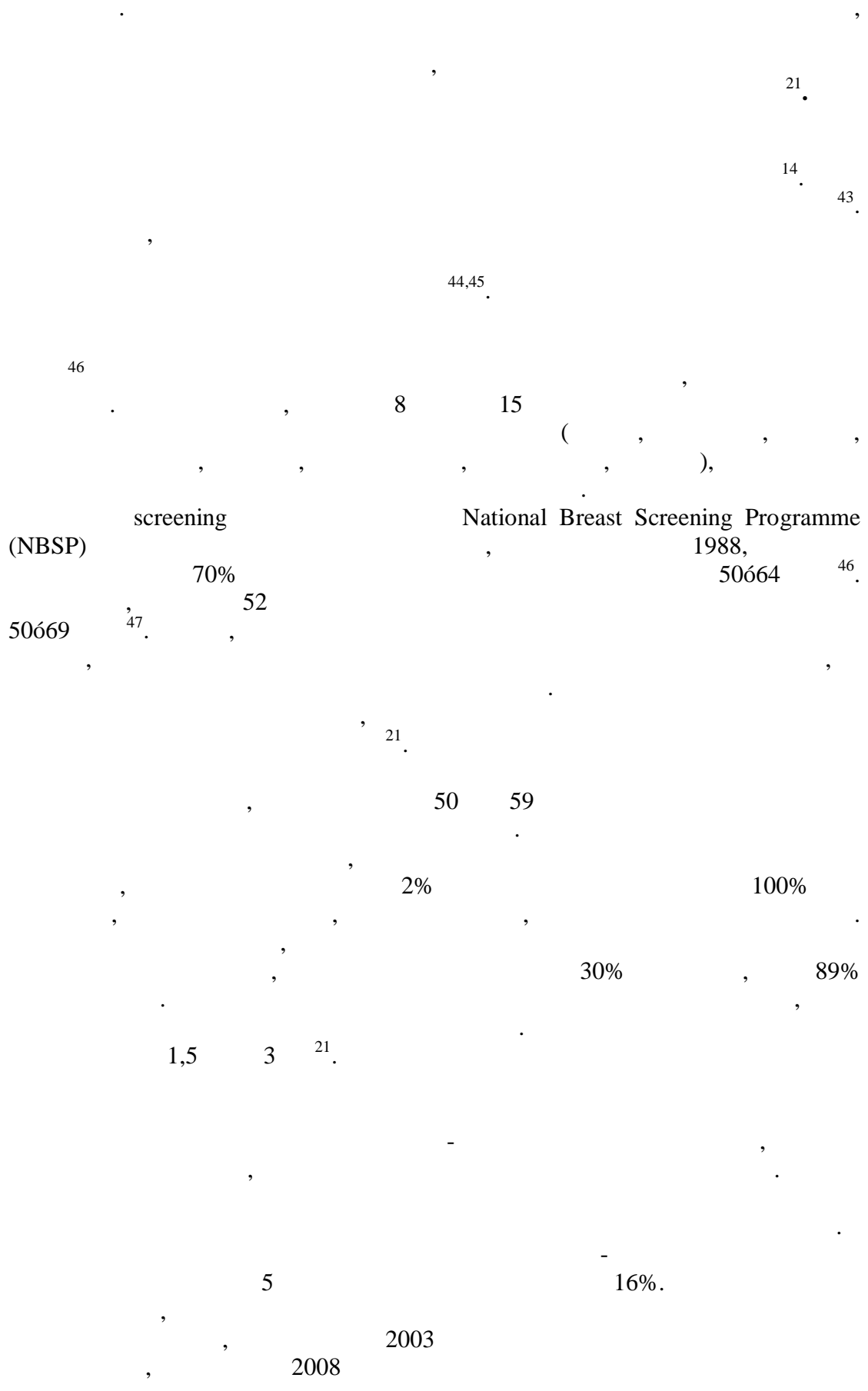
1994-1995 ²⁵

1.2

， ，
 26
 « ， »
 26,27,28,29,30,31,32
 12,32,33
 50-70
 35%
 12
 / (/)
 34,35,36,37,38,39 /
 40,41

1.2.1

« »
 21
 8% 19% 5
 42



25%

5

5%²¹.

1987

:

- 1.
- 2.
- 3.

(EBCN)

:

-
-

(mammography screening)

8

25%.

1.2.2

1 10.

13.

1987
ö (1987-89),
(1990-94, 1996-2002).
15%

õ

2000,

1987.

1987,

13.

1987:

«

(1990-94, 1996-2003)

»,

2000,

15%.

1990:

«

»

1992

« K

».

2002-2006:

(

-

400

).

2003:

«

»

2003-2008:

«

» .

1.2.3

2001

48

(. .)

49

50

2003

3481

74%

(=790)

1980

(,)

51

1.2.4

1

1,5

∅

40

15,52

30%-40%

40 ó 69

« »

32

53

50 54 40

50 55

40 49

54,56

54

53

1.2.5 E

57

39,58,59,60

35,39,33

61

62.

33,57

58.

63

63

64,65

«

»

66,67

68,69

58

70

44,33

(1999)

71.

(

69

)⁷².

35

33

33

44,45

73,74,75,76

74,75,76

57,71,72,77

57

57,

71,78

58

79

63

58

1.2.6

80,81

65

80,81

20-39

3

40

20

20

80,81

:

-
-
-
-

50

()

)

:

-
-
-

30 ,

(. 6) /

/

,

,

,

.

:

- The National Cancer Institute (NCI) 1 2
40
50 35, 16
- American Cancer Society (ACS)
(2003)
(CBE), (3
20-30
40) awareness
(Breast Self-Exam S)
20
40 82, 43
- American Academy of Family Physicians 2th United States Preventive
Services Task Force (USPSTF) 1-2
50-69 10
- : American Medical Association (AMA), American College of
Obstetricians and Gynecologists (ACOG), American College of Radiology
(ACR) screening CBE 40

Medicine, USPSTF American College of Preventive
NCI

1.3

1.4

1. , , ;
2. , ;
3. ;
4. ;
5. ;
6. ;

2.

- .
- .
- .
- :
1. , , .
 2. , .
 - 3.
 - 4.
 - 5.
 - 6.
- .
- ,
- .
- ,
- .

.....

.

,

.

3.

3.1

,

:

14

(.)

:

:

•

14 .

- 2004

(30

,

45-65

,

.).

•

∅

(28)

(=151), (

=91

=15)

14 . .

2004.

1
45

83,84

83

:

:

•

8

2005

28

2005

45-65

,

),

(8

),

(7

(7

),

(8

).

•

:

6

16

(50%

).

•

pilot test

•

test-retest

3.2

: ().
 85.86 . Warwick .

:
 "Cancer control practices in Western New York"

¹⁰

2001 Western New York, 27

87

3.3



test-retest

30 -35

3.4

88,89,90,91

ó

(test-retest)

Cohen's kappa coefficient⁹².

SPSS (15).

square test

Pearson's chi-

odds ratios

)

status

(

(. , . .)
, ó
().

(0-4)¹⁰

binary logistic regression.

()

0=<3

p<0,05.

4.

4.1 1

Mammography screening: views from women and primary care physicians in Crete

:

4.2 2

ōCancer control practicesō: Translation and cultural adaptation of an instrument in Crete, Greece

« »:

,

4.3 3

The mammography screening in Crete: Pre-symptomatic control, a challenge for the GPs? Experiences for a PhD study in Crete

:

;

4.4 4

Breast cancer screening knowledge among rural primary care physicians in Crete, Greece

. .

4.5 5

Attitudes and views of women and physicians in an urban area of Crete concerning mammography screening: Results of a study with qualitative research methods

:

4.1 **1**

Mammography screening: views from women and primary care physicians in Crete

Maria Trigoni, Frances Griffiths, Dimitris Tsiftsis, Eugenios Koumantakis, Eileen Green, Christos Lionis

BMC Women's Health, 7;8:20, 2008

Research article

Open Access

Mammography screening: views from women and primary care physicians in Crete

Maria Trigoni*^{†1}, Frances Griffiths^{†2}, Dimitris Tsiftsis^{†3},
Eugenios Koumantakis^{†4}, Eileen Green^{†5} and Christos Lionis^{†6}

Address: ¹University of Crete, Head of Department of Social Work, University Hospital of Heraklion, Crete, Greece, ²Health Sciences Research Institute, Warwick Medical School, University of Warwick, UK, ³Head of Department of Surgical Oncology School of Medicine, University of Crete, Greece, ⁴Head of Department of Obstetrics and Gynecology School of Medicine, University of Crete, Greece, ⁵Director of Centre for Social and Policy Research, University of Teesside, UK and ⁶Head of Clinic of Social and Family Medicine, School of Medicine, University of Crete, Greece

Email: Maria Trigoni* - martrig1@yahoo.com; Frances Griffiths - f.e.griffiths@warwick.ac.uk; Dimitris Tsiftsis - tsiftsis@med.uoc.gr; Eugenios Koumantakis - obgyn@med.uoc.gr; Eileen Green - e.e.green@tees.ac.uk; Christos Lionis - lionis@galinos.med.uoc.gr

* Corresponding author †Equal contributors

Published: 7 November 2008

Received: 7 August 2007

BMC Women's Health 2008, 8:20 doi:10.1186/1472-6874-8-20

Accepted: 7 November 2008

This article is available from: <http://www.biomedcentral.com/1472-6874/8/20>

© 2008 Trigoni et al; licensee BioMed Central Ltd.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/2.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Background: Breast cancer is the most commonly diagnosed cancer among women and a leading cause of death from cancer in women in Europe. Although breast cancer incidence is on the rise worldwide, breast cancer mortality over the past 25 years has been stable or decreasing in some countries and a fall in breast cancer mortality rates in most European countries in the 1990s was reported by several studies, in contrast, in Greece have not reported these favourable trends. In Greece, the age-standardised incidence and mortality rate for breast cancer per 100,000 in 2006 was 81,8 and 21,7 and although it is lower than most other countries in Europe, the fall in breast cancer mortality that observed has not been as great as in other European countries. There is no national strategy for screening in this country. This study reports on the use of mammography among middle-aged women in rural Crete and investigates barriers to mammography screening encountered by women and their primary care physicians.

Methods: Design: Semi-structured individual interviews. Setting and participants: Thirty women between 45–65 years of age, with a mean age of 54,6 years, and standard deviation 6,8 from rural areas of Crete and 28 qualified primary care physicians, with a mean age of 44,7 years and standard deviation 7,0 serving this rural population. Main outcome measure: Qualitative thematic analysis.

Results: Most women identified several reasons for not using mammography. These included poor knowledge of the benefits and indications for mammography screening, fear of pain during the procedure, fear of a serious diagnosis, embarrassment, stress while anticipating the results, cost and lack of physician recommendation. Physicians identified difficulties in scheduling an appointment as one reason women did not use mammography and both women and physicians identified distance from the screening site, transportation problems and the absence of symptoms as reasons for non-use.

Conclusion: Women are inhibited from participating in mammography screening in rural Crete. The provision of more accessible screening services may improve this. However physician recommendation is important in overcoming women's inhibitions. Primary care physicians serving rural areas need to be aware of barriers preventing women from attending mammography screening and provide women with information and advice in a sensitive way so women can make informed decisions regarding breast cancer screening.

Background

Among women, breast cancer is the most commonly diagnosed cancer both in the developed and developing world and a serious cause of mortality and morbidity [1-4]. There is evidence from many countries that breast screening with mammography can reduce mortality from breast cancer [5-9] and mammography screening has been recommended in Europe for over a decade [10]. In 2006 in Greece, the age-standardised incidence and mortality rate (ASRs, European Standard) for breast cancer per 100,000 was 81,8 and 21,7 [11]. Although this is lower than most other countries in Europe, the fall in breast cancer mortality observed in most European countries over the last decade has not been as great in Greece [12]. During the 1990s, the observed incidence of female breast cancers increased in Europe, accompanied by a significant decrease in breast cancer mortality [4]. Many European countries, including the Scandinavian countries, Germany, Poland, the Czech Republic, Austria, Switzerland, Italy and Spain have shown an appreciable reduction in mortality rates (between 8% and 19% in the last 5 years), which has been attributed to earlier detection and improved treatment [11]. Reductions in mortality rates have been lower in Greece [11], where delayed diagnosis seems to be a key issue. There is no nationally formulated strategy for early detection of breast cancer, and mammography screening programmes have yet to be established in the Greek mixed public-private health care system. There have been local initiatives such as a pilot study by the Hellenic Society of Oncology [13] for early detection of breast cancer. In this pilot study in Ilia and Messinia in the Peloponesos, in Southern Greece women aged 40-64 years were invited for screening and a participation rate of 52,48% was reported [13]. The establishment of a mobile mammography unit to cover rural population health needs has been proposed and is currently being set up. Although there is free access for all to health care services through the social insurance system [14], use of the private sector, including private diagnostic centres, is on the increase [15] but it is mostly people with higher education and income levels that use these centres [15]. Where mammography screening has been promoted, for example through primary care, participation rates have been low [16]. Debate on health care reform in contemporary Greece is focused on primary care enhancement and health promotion, including the encouragement of appropriate mammography breast screening [14]. However, Greek general practitioners report that heavy workloads and lack of time make it difficult for them to engage in prevention and health promotion activities [17]. Little is known about how women in Greece perceive mammography breast screening. This study explores the knowledge, attitudes and perceived practices of both primary care physicians and women in relation to mammography breast screening on the island of Crete in Greece.

The study was led by a research team in Crete, building on earlier work in the UK [18]. It forms part of a wider programme of research undertaken in Crete to identify the key components of a regional policy for breast cancer screening.

Mammography screening participation in differing health care systems

Studies of mammography screening participation rates and reasons for participation or non-participation have been undertaken in many countries with diverse health care systems and screening programmes. In the UK, where there is a well-established population-based screening programme with invitations sent to eligible women every three years, women find mammography screening an uncomfortable experience, but they perceive attendance as a social obligation [18]. No such scheme exists in Greece, where women must seek advice and care on their own initiative. This paper therefore briefly reviews only studies undertaken with women in health care systems similar to the Greek mixed public-private model. Similarly, it reviews studies of physicians' attitudes to mammography screening undertaken in countries with a mixed health economy.

In Europe, studies in France [19] and Spain [20] show participation to be higher among women of higher income and higher educational attainment. In North America, similar trends are found both in the USA [21] and Canada [22]. Where studies have asked women why they participate or not, a range of reasons has been found. For example, reasons given for non-participation by Spanish women included fear of finding a serious problem and the difficulty of making and keeping an appointment [20]. In the US, non-participating women perceived the test to be unnecessary in the absence of symptoms and believed that they were not themselves at risk of cancer. Other concerns included inconvenience, discomfort, embarrassment and pain [21]. A study with non-participating Canadian women identified similar issues, with the addition of rurality reducing participation. In the US, rural women were less likely to receive mammography screening at recommended intervals [23]. Several studies indicate that older women may be unaware that they run a greater risk of developing breast cancer than younger women. Furthermore, it would appear that they perceive mammography to be unnecessary in the absence of symptoms [21,24]. Older women have been found to be more negative about the outcome of cancer; their failure to attend screening is related to knowledge and information barriers [25]. As a result, they undergo fewer early-detection examinations than younger women [26].

In countries such as the UK, a woman's personal physician is not involved in arranging mammography screening.

However, studies have shown that in countries with a mixed health economy, recommendation by a physician is one of the most powerful incentives for women to attend mammography [27,28] regardless of age, socioeconomic status or ethnic group [26,29]. A study in Cyprus found that physician recommendation and women's sense of self-effectiveness were the most important predictors for the decision to undergo screening [30]. Studies with physicians report difficulties concerning implementation of preventive care; the most important barriers reported were lack of time [17,31,32], lack of patient compliance with advice [31], heavy workload [17,32] and no reimbursement [17]. Conflicting professional recommendations for screening older women, leaving older women out of clinical trials of screening efficacy, and possible negative attitudes held by physicians and patients all contribute to lower screening rates among older women [29]. Physicians' practices and attitudes in recommending screening vary according to age, years of training, speciality and gender [33]. Some studies have also demonstrated a higher rate of referral among women physicians [3,34,35].

The aims and design of our study were underpinned by a model of transcultural health care utilization [36] previously tested in rural and urban Crete, where biomedical and indigenous knowledge systems co-exist [37]. This model identifies a series of factors that interact with utilization to varying degrees. On the individual level, the model includes predisposing factors such as socio-demographic characteristics (age, education, work status, marital status), psycho-social characteristics (attitudes towards health care, knowledge and practices) and enabling factors (income of household, socio-economic status, financial cost). These all influence the possibility of using health care at the individual level. On the medical system level, factors such as geographical and financial accessibility affect the influence of the medical system on the choice of type of health care. Our study aimed to determine what influences the uptake of mammography screening in rural Crete at both the individual and medical system level. The model guided the selection of questions for the interviews with both physicians and women.

Our research questions were as follows

- a) What attitudes do middle-aged women in Crete have towards the use of mammography screening, and what do they know about it?
- b) What factors influence the women to attend mammography screening?
- c) What are the views of physicians in Crete concerning women's participation in mammography screening?

d) Do physicians follow guidelines on mammography screening when they advise women?

The study focused on women in rural Crete, and explored the perspectives of physicians working in publicly funded rural health centres on the island, since it was undertaken to assist in the development of a regional policy for breast screening in Crete. As the aim was to explore the approach women and physicians take to mammography screening, data was collected by means of qualitative interviews [38].

Methods

Setting

The 14 Primary Health Care Centers (PHCCs), serving the rural population of Crete (283,694 residents), were included in this study. Primary Health Care Centres are staffed by GPs, internists (total number of doctors = 105), nurses, midwives, health visitors, lab assistants, and other administrative personnel, and provide health promotion, prevention and acute care services free of charge for all who attend the centres [14]. Agreement to participate in the study was sought from the director of each PHCC.

Participants

Thirty women attending the PHCCs during the study period (March-June 2004) were recruited. In order to obtain a broad range of views and experiences, we aimed to recruit a random sample closely representing all the different rural areas in Crete. The sample was drawn from the list of regular appointments at every Health Centre. The interviewer (MT) attended each PHCC on a set day and approached the first two women to attend, provided they were residents of the catchment area covered by the centre, aged 45–65 years, and were attending for a regular check-up appointment with a GP or internist. Every woman approached was interested and agreed to participate, and after the interview many women asked for more information about mammography. Twenty-eight primary care physicians (PCPs) were recruited. The interviewer asked the two physicians on the morning shift for an interview. Where more than two were working, two were selected at random. One physician refused, so a physician working the next shift was asked to participate. The study recruited physicians only, as they are the PHCC health professionals who give individual women advice about mammography screening. Participants received written information about the study's aim, the voluntary nature of participation and assurance of confidentiality. All were asked to sign a consent form. Interviews took place in the primary care centre and lasted 30–45 minutes.

Interview development

Semi-structured interview schedules consisting of open questions were used. The interview schedules were a translated and adapted version of those previously used in the

UK [39], one for physicians (see additional file 1) and one for women (see additional file 2). The women's interview schedule covered the women's social relationships; their priorities and concerns about their health; knowledge and attitudes to mammography screening and about its safety; their experiences with health professionals and the decision making process in relation to mammography screening. Care was taken to avoid making suggestions to women about their reasons for use or non-use of mammography screening. The health professionals' interview schedule covered physicians' perspectives on health priorities and concerns facing women in mid life, their views on women's health in mid life, their knowledge and attitudes to mammography screening and how they approach the decision making process about mammography with women. This paper focuses on the data concerning mammography screening. Data collected on wider social and health issues provide an understanding of the context for women and health professionals, which aids interpretation of the data.

Analysis

All interviews were audio taped and transcribed by the principal investigator. The transcripts were read by CL who contributed to the thematic analysis. Analysis of the interview data was undertaken through a process of close reading of the data, identifying key themes, relating the themes to relevant literature in the field and then returning to the data [40,41]. All the interviews, the coding and initial analysis was undertaken in Greek. The initial analysis report, including relevant quotations from the data, was translated into English and the results of the analysis were discussed among the whole research team. From this discussion, further analysis of the Greek data was undertaken and a final analysis developed in English.

Ethics

The Scientific and Ethics Committee of the University Hospital of Crete approved the study.

Results

This paper describes the 30 women and 28 physicians interviewed and then reports the thematic analysis, first of the women's interviews and then the interviews with the physicians.

Participants characteristics

Of the 30 women who participated in the interviews (mean age of 54,6 years; SD 6,8), 15 women had undergone mammography (ages: 45–50 years n = 6; 51–55 years n = 3; 56 – 60 years n = 4; 61 to 65 years n = 2) and others 15 had never had mammography (ages: 45–50 years n = 5; 51 to 55 years n = 2; 56 – 60 years n = 2; 61 to 65 years n = 6). Table 1 gives the socio-demographic characteristics of the women interviewees and use of mammography as reported during the interviews. Most of the

women had low income and limited final education levels. The reported use of mammography does not distinguish between mammography screening and mammography undertaken as part of a process of diagnosis of a breast abnormality.

Of the 28 physicians interviewed (mean age 44,7 years; SD 7,0), 13 were male and 15 female. Six physicians were qualified as internists and 22 as general practitioners. Table 2 summarises their age group, length of time working as a physician and length of time in their current post. More than half of the physicians had worked in their current post for less than ten years.

Mammography screening from the women's perspective

Women's knowledge of mammography

Most of the women seemed to be aware of mammography and had a general idea of what it was. Of the 30 women interviewed, over half (18) knew that mammography was an examination of the breast and a further 7 knew that it was a preventive examination for breast cancer.

It prevents breast cancer and..... what else now? It is a preventive check for the breast. I tell other women about mammography, when we talk about it, I tell them to go do mammography, there is an easy, let's say, solution for the breast..... if there is a problem (woman 19).

Mammography is a test you do for prevention of breast cancer. It takes place once a year, and clinical breast examination once a year. One time, as I have done, one time we do mammography and every six months clinical breast examination and observation, let's say, if something happens in this duration. (woman 21).

Five women knew nothing about mammography screening (aged 48 – 65 years). One woman (age 52 years) talked about breast self-examination but did not know about mammography screening.

The women interviewed had learned about breast cancer, breast self-examination and mammography from various sources including health professionals (n = 17), mass media sources (n = 12), family or friends or when they heard about a new case of breast cancer. (n = 11). The majority of women (n = 23) said they trusted the physician's expertise on medical issues such as mammography.

God has appointed doctors to save and help people and if you meet a good doctor he will do good work (woman 15)

In the beginning, I ask first of all the doctor. Yes,yes the doctor as an expert, I must ask for him to inform

Table 1: Women interviewees' reported socio-demography and use of mammography

Age group (years)	Number of women	Number of women who have used mammography	Number of women who have never used mammography
45–50	11	6	5
51–55	5	3	2
56–60	6	4	2
61–65	8	2	6
Marital status			
Widow	3	2	1
Married	26	13	13
Single	1		1
Education completed			
No schooling	1	1	
Primary school	21	8	13
Secondary school	5	3	2
High school	1	1	
Higher education	2	2	
Work status			
Retired	4	1	3
Private employee	9	5	4
Domestic/agricultural work	11	6	5
Full time house wife	5	2	3
Public office	1	1	
Weekly household income before income tax (euro)			
0–100	7	3	4
100–200	12	6	6
200–300	7	3	4
300–400	1	1	
400–500	1	1	
500–700	1		1
Up 700	1	1	
Reported use of mammography			
Never	15		
Every year	4		
Once	6		
Two – three times	5		

me. I will do what he will say to me because he is the expert, he knows better. (woman 22).

This may suggest that doctors enjoy high status and are revered by some women in Crete.

Women's use of mammography

Of the 15 women interviewed who had never had a mammography for any reason (screening or diagnostic), 6 said no one had recommended mammography screening, but if it had been recommended, they would have agreed to it. A further three of the 15 women said no one had ever informed them about it, leading them to assume that they didn't have any particular need for it. This may, at least in part, reflect the trust women place in their doctor as the revered expert.

Of the 15 women who had undergone mammography, six women reported having a mammography test because their gynaecologist or endocrinologist (private physician)

suggested it, two were recommended mammography by a physician at a PHCC, one by a midwife, and six women said they decided to undergo mammography themselves or after discussion with their daughter or friend. It is unclear, particularly for those women having mammography once or two to three times, when the mammography was for screening purposes or when it was because of a problem with their breast. Generally these women were unclear about what mammography screening could achieve. This confusion might be related to a lack of engagement with health promotion literature on the subject and the impact of cultural attitudes that suggest that absence of symptoms indicates good health.

Barriers to mammography screening

Absence of symptoms

This section reports what women said about mammography screening, particularly what put them off going for screening. Although asked about screening, nine women specifically cited absence of symptoms as a reason not to

Table 2: Physicians' age, years working as a physician and years in current post

Characteristic	Number	
Age	30–35	4
	36–40	4
	41–45	3
	46–50	13
	51–55	2
	56–60	1
Gender	Male	13
	Female	15
Specialty	Internal Medicine	6
	General Practitioner	22
Total years of work	6–10	12
	11–15	3
	16–20	6
	21–25	6
	26–30	1
Total years of work in current position	0–5	12
	6–10	4
	11–15	7
	16–20	4
	21–25	1

have mammography, of whom one had already experienced mammography and eight had not.

These findings and the following women's responses suggest that the benefits of screening programmes are either poorly understood or that screening is rejected as premature intervention.

I've no breast problems, so mammography isn't necessary. (woman 15)

We aren't the type of people who go to the doctor if we only have a pain or some health problem. If we see some trouble, we go to the doctor, but then it's a little late (laugh), a little late. (woman 4).

Knock on wood, I don't know because I don't have that problem. (woman 15)

We must be checked, we must be examined, but you must have some problem, eh? Without a problem should you go? No, I have never gone to a doctor about that. (woman 11)

It is unclear from the interviews whether these responses reflect a lack of understanding of screening for early detection and treatment of breast conditions, or whether this is

understood but the women do not welcome such health interventions, viewing them as unnecessary.

Risk and Safety Issues

When asked about the safety and risks of mammography screening, seven women mentioned that fear of the effect of exposure to radiation put them off. Six of these women had experienced mammography.

The radiation that I'll be exposed to. I also think about that because I have been having many examinations lately, but... if it is necessary. I think that we are getting radioactivity now but how harmful it is to our health I don't know. (woman 19)

Six women said they had not had mammography screening because a physician had not recommended it, displaying a trust in physicians to recommend screening if they needed it. None of this group had experience of mammography either and they reported both no encouragement or recommendation for breast screening by their doctor, and a lack of funds to pay for the screening itself. However, half of this group said they would have a mammogram if their physicians recommended it

I didn't ask the doctor. And since I didn't ask they haven't mentioned it. If a doctor says that I have to have a mammogram, yes, I will have it. (woman 24).

It depends on what information the doctor will give to me to continue if it is necessary to do it When he says that it is must to do the mammography I will do it. If I see something to my breast and I will visit the doctor and he says to me that you must do a mammography, because the doctor says it and he knows better I will do it. (woman 13).

Six women said they knew they should go and have mammography screening but they had not got around to doing so. Five of the six women have never undergone mammography.

Fear and Negativity towards Mammography

Fear of pain or a previous traumatic experience emerged as another important reason for not attending mammography screening for five of the women.

I don't know. Sometimes as my breast is compressed, perhaps they'll crush something. (woman 18)

Four women talked of their fear of finding something seriously wrong such as cancer. Two of the four had experience of mammography.

Because we are afraid, that maybe, let's say, you have something in your breast and you will need various

other procedures and for this reason, you avoid being checked. (woman 24)

One woman had been frightened by the experience of her neighbour who had a mammogram and later on lost her breast so had not had a mammogram herself.

Yes I am afraid of the expected results. (woman 10)

Not a Priority

Four women mentioned they were too busy with family obligations to attend mammography screening. Four women said embarrassment put them off attending:

If it is something gynaecological, I may be embarrassed because here in the countryside we are, let's say, more... um... but since I've never needed to have a breast examination, a doctor to examine my breast, I don't know. (woman 7).

Other reasons that women mentioned included the cost of having a mammogram (n = 2), the lack of information about having a mammogram (n = 2), the lack of free time (n = 2), the difficulty of getting to the mammography centre due to the distance (n = 1):

Nah. It's mostly the distance for me (woman 20)

Mammography screening from the physicians' perspective

Knowledge, attitudes and practices

Most physicians in the sample were well informed. When asked about their knowledge of screening for breast cancer with mammography, the majority (n = 20) claimed to be well-informed although seven said they would like more information. However, one physicians said:

It isn't my specialty; I can't say that I am informed. (physician 26)

Another physician expressed doubts about the reliability of mammography screening and whether it should be trusted. He said:

I'm not well informed about whether it gives reliable information. (physician 12)

The majority of physicians interviewed talked about the importance of their recommendation for women to attend mammography screening (n = 16), confirming that when they urge women to undergo mammography screening most of them will do so.

If you tell them that the mammogram is necessary, all of them have it. (physician 22)

Just one physician had doubts and felt unsure of how to persuade women of the importance of mammography screening and did not feel prepared to manage a large number of patients:

According to the guidelines I feel that I do relatively well. As far as management of large numbers of patients, such as those who come to the office, I don't feel prepared. I don't consider myself well-informed on this subject, neither about how I will present it to the patient, nor how I will persuade her of the necessity of this examination." (physician 3)

Lack of time for adequate discussion in the clinic

Another notable finding was that a number of physicians (5) reported lack of sufficient time to discuss mammography screening because of the large number of patients attending each clinic and the short time available to talk to each one.

When the patient visits (the clinic) at regular office hours we will almost always propose that a mammogram be done. However, when the visit occurs during the emergency shifts we often neglect it. (physician 3)

When is mammography screening recommended by physicians?

When asked for whom they would recommend mammography screening, physicians mentioned

- women in the appropriate age range to be screened (n = 9)

- women who may have a hereditary predisposition towards breast cancer (n = 12)

- women who asked for a mammography of their own accord (n = 2)

In total, only eight physicians reported suggesting mammography to all eligible women. Although interviews were about mammography screening, eleven physicians mentioned they would recommend mammography to women presenting with clinical symptoms or who had palpable nodules (n = 11).

If there is a hereditary case-history then I insist more, or of course if there is a clinical finding, in the breast examination. (physician 5)

The age, a possible case-history and hereditary predisposition. (physician 19)

During interviews physicians were quite clear about the subtle difference between screening and diagnostic mammography, screening being for asymptomatic women and

diagnosis for women with concerns about disease based on symptoms and signs. However, in the health care setting the actual referral procedure for mammography screening was the same for both screening and diagnosis, which may be one reason why the majority of women in our sample were confused about the purpose and benefits of mammography screening.

Barriers to Mammography Screening

The primary care physicians interviewed all identified difficulties with arranging mammography for rural patients because of difficulties in scheduling an appointment at public hospitals and waiting times.

They have no access to mammography. The two public hospitals schedule appointments four, five or six months after referral. (physician 2)

MT contacted all seven prefecture general hospitals and the University general hospital of Crete (all publicly funded) to check the availability of mammography and the waiting times for appointments. Only five of the eight hospitals provide a mammography service, so for some PHCC accessing mammography would be very difficult. Those providing mammography claim to have waiting times for an appointment of between two and four months.

It's a long way to the clinic for most rural women

Eight physicians reported that distance and transportation (geographical accessibility) difficulties in travelling through mountainous regions to the city were a problem for women, with older women having more transportation difficulties than younger ones:

One woman said to me: Why should I have a mammogram? It's not easy to go to Heraklion. It's too far. (physician 8).

If women were unable to afford the cost of visiting a private diagnostic centre and had to wait for a long period in a public hospital, their physicians usually avoided recommending mammography. Nine physicians mentioned the cost of having mammograms at private diagnostic centers as a barrier, particularly for older patients with fixed, low incomes. One physician said:

The financial side is such a problem that many poor people would rather die than have their lives complicated every year to have a mammogram. I can't talk to them about it. In other words a lot of things stop at the Health Center. If it costs as much as the cost of a trip to Rethymnon they would rather even be diagnosed with cancer to make the trip worth it. (physician 23)

Physicians also identified the absence of symptoms as a factor discouraging women from having mammograms, which is similar to data in the women's interviews:

(Women say) there's nothing the matter with me, why should I have a mammography? (physician 8).

Physicians reported that women were motivated to have a mammogram when a relative has had breast cancer (n = 6) and when the woman had symptoms such as breast pain (n = 12).

Other reasons physicians gave for women not having a mammogram included: not considering it a priority (n = 3); embarrassment (n = 3); fear of diagnosis (n = 4); fear of pain (n = 3) and fear of radiation (n = 8). All of these factors except embarrassment were also mentioned by the women, although a number of physicians identified it as an issue, especially for older women:

Deep down however, most of the time it is embarrassment, especially for older women. Very often it's embarrassment. (physician 6)

Fear, that they will find something...doctor, I don't want to know (physician 2).

Pain/discomfort and radiation risk were also mentioned as barriers:

Another high percentage considers it a painful exam from their previous experiences. (physician 3)

The main reason is that they will be exposed to radiation. (physician 18)

In addition, family obligations and lack of free time were identified as discouraging women from having a mammogram. One physician said that women tend to say:

I haven't anywhere to leave the kids, it isn't easy to go to Heraklion. I have my father-in-law, my mother-in-law, we don't have time, family obligations (physician 8)

This suggests that women put their own health last, after the well being and care for other family members. Over half of the physicians (n = 16) suggested that physician gender plays a role in determining whether women felt able to discuss sensitive subjects such as their breasts. Two male physicians said they refer women to female physicians or midwives for gynaecological issues. One female physician said that women prefer to consult female physicians as far as prevention is concerned, but when they confront a serious medical problem, they prefer to consult

male physicians, which may suggest more deference to the authority of the latter.

The importance of patient's characteristics

In response to a question about how educational level, age and socioeconomic status affect women's knowledge and use of mammography screening, the vast majority of physicians (n = 23) agreed that these factors were important. Four physicians specifically commented that educated women made use of mammography more frequently than less educated women and older women were screened less frequently than younger women. However, they thought this was changing as women were becoming generally more informed about health issues. Nine physicians talked about the role of financial difficulties in deterring women in seeking breast screening.

The majority (22 out of 30) of physicians interviewed mentioned that women were influenced in their decisions about mammography screening by their overall attitude towards life; attitude towards life seems to play an important role in determining how they address their health. They claimed that women prioritized their children and other family obligations over their own personal or health problems. In general, there was consensus among physicians in the sample with no indication that their views varied by either age or years spent working as a physician.

Discussion

This study has identified the subtle interplay of complex factors, from both the women and physicians' perspective, that result in women from rural areas of Crete failing to access mammography screening. We summarise in Table 3 factors that seem to impede the use of mammography in rural Crete. This study delineated that most of the women knew about mammography and were interested in having

mammography screening. However, it was also clear that few women were able to take an adequately informed decision about mammography screening and share in decision making about results with their doctor.

The level of education and the income of people living in rural Crete is low and this was the case for the women in our study. There is evidence that socio-economic factors for example, higher income and higher level of education, are important correlates of use for mammography screening. In a previous French study [19] there is evidence that a high monthly household income or high education level, increased the probability of accessing mammography. The majority of physicians in our study were aware of the impact on screening uptake of low levels of education and income. Both the women and physicians mentioned similar barriers to attending mammography screening, many related to the low socio-economic status of the women.

The reasons cited by both women and physicians as to why a referral for mammography screening is not made, have also been identified in earlier studies [20,21,24,42]. The finding that women fail to prioritise their own health also replicates other research [43]. Previous studies [44-46] have reported that women living in rural areas may be less likely to receive mammography than urban women, and breast cancer screening rates are lower in rural communities. Utilization of preventive health care services is lower in rural populations than in urban populations, possibly as a result of barriers to preventive health care that are characteristic of rural settings (isolated residential settings, lack of transport etc.)[44]. Rural women were found to have the same basic knowledge of breast cancer or perceptions of barriers to mammography, but had more complex attitudes towards breast cancer itself.

Table 3: Barriers to mammography identified by women and physicians

WOMEN	PHYSICIANS
Absence of any symptoms	<i>Contextual issues</i>
Fear of radiation	Access to a mammography screening center
Lack of recommendation of physician	Difficulties in scheduling an appointment in state Hospitals, waiting time
Fear of pain	Distance, transportation problems from mountain regions to the city
Fear of results-diagnosis	<i>Women related issues</i>
Family obligations	Absence of symptoms
Embarrassment	Embarrassment felt by women
Cost	Consequences of radiation
Lack of information	Fear of diagnosis
Lack of free time	Problem of free time and family obligations
Distance from screening centers – Transportation problems	Cost at Private Centres
	<i>Physician related issues</i>
	Physician judgment and management
	Gender of physician

Access to health care remains an important issue facing many individuals. Barriers to health care include financial factors, socio-economic characteristics of the individuals and the health care delivery system, as well as geographical factors [46]. However, none of the barriers discussed stood out as being more important for the promotion of mammography screening than others, suggesting that a multifaceted approach to the promotion of mammography screening is the most likely to be successful.

This study was undertaken to inform local health care reform in relation to mammography screening. The recruitment rate for participants in the study was very high. Both women and physicians expressed interest in both the study and mammography screening for themselves and for the locality. This interest in the study may have been enhanced by the relative lack of previous qualitative studies in this subject in Greece. As with similar studies elsewhere, the data needs to be interpreted with caution as both women and physicians may have exaggerated their enthusiasm for mammography screening due to the nature and setting of the study. However, the study was successful in enabling negative views to be expressed.

Taken as a whole, the data from both women and physicians suggests that there is a growing understanding of the importance of mammography screening and preventive health care more generally, and that with attention to detail as to how it is promoted and provided, mammography screening could become the norm in Greece as it has become in other European countries. Our findings indicate where such attention to detail needs to be focused.

Promoting mammography screening among women

Our study suggests that there is still a need for raising awareness in relation to breast cancer and the role of mammography screening, even though most women interviewed had some knowledge of it. The concept of preventive medicine is still largely unknown among primary health care centre populations as demonstrated in a recent European study [17]. Raising awareness in this area includes the need to clarify the difference between mammography screening for early diagnosis and mammography for diagnosis of a perceived breast problem. Fear of cancer, fear of the perceived pain of mammography, fear of radiation, embarrassment and women failing to prioritise their own health are cited by individual women and need attention in Crete; however, these are also issues women mention as barriers in countries with high mammography screening rates [20,21,24].

Promoting mammography screening and the role of the physician

For some of the women interviewed, the physician was perceived as a key person in recommending mammog-

raphy screening, although other women had arranged their own mammography screening. To achieve high rates of mammography screening, physicians are likely to be important in promoting a screening programme [17,31,47], particularly initially when women expect endorsement for screening from their physician. Physicians can play an essential role in improving women's participation in screening programs [48] and early detection of cancer [31] through direct recommendations to their patients [4]. There is some evidence to suggest that targeting doctors' involvement in screening is associated with an increase in breast screening attendance [49]. In most previous studies, advice, recommendation or encouragement from health professionals has been found to increase the likelihood of attendance [47]. Over 90% of rural women report that a doctor's recommendation to have breast cancer screening is "important" [4]. The involvement of physicians in establishing a programme requires them to have sufficient time, information and support, including clear guidance on eligibility for screening. The role of the physician in encouraging mammography screening long-term is open to debate, as women may become confident enough to seek screening for them.

Promoting mammography screening through health care policy and process

The results from this interview study suggest a number of policy and process issues where change could increase the uptake of mammography screening. Having different referral routes could ease the confusion for women between diagnostic mammography and screening mammography. This may also make it easier for physicians to refer all women for screening mammography rather than emphasising diagnosis and screening where there is high risk. The process of obtaining mammography screening needs to enable women to attend relatively easily. Many women mentioned that they need to be able to travel to the screening centre, to afford both the travel and the screening, and to have some flexibility in appointment times. This study underscores the need for continued efforts to provide breast cancer screening to rural communities, including community education interventions and low-cost mobile mammography van services [45]. Attention to these issues will also encourage physicians to recommend screening.

Study limitations

This was a qualitative study recruiting women attending participating primary care practices. Both physicians and women were asked about screening mammography and both responded, with physicians talking about screening in some detail. It appears that not all of the participating women understood the difference between diagnostic and screening mammography, which may have affected their

responses. This was an exploratory study, the results of which will increase our understanding of these issues for health care on Crete. The small size and qualitative nature of the study mean that the results are not generalizable to the whole population. However, there is no strong indication that our sample differed in terms of age, profession, culture and language from other rural Greek populations.

Conclusion

This study provides valuable insights into women's knowledge, attitudes and use of mammography screening and the knowledge, attitudes and use of mammography screening by primary health care physicians in rural Crete. The study was designed to deliver data through which to inform health policy, prioritizing qualitative data collection, methods and analysis and listening to women's voices. The study's findings build upon previous research in other settings but uniquely, provide health care providers and policy makers in Crete with evidence specific to their locality for the future development of a preventive programme of mammography screening. Barriers to the implementation of a mammography screening programme may be similar across different geographical and national contexts, but demonstrating both the specific factors involved and the distinct local way in which such factors interact, is necessary for the development of robust and appropriate regional policy.

Abbreviations

PHCCs: Primary Health Care Centers; PCPs: Primary Care Physicians; GP: General Practitioners.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

MT was the principal investigator for the study and undertook data collection, transcribed and analysed the interviews, and wrote the initial manuscript. FG and EG undertook a study visit to primary and secondary health care services in Crete funded by the UK Economic and Social Research Council 'Innovative Health Technology programme of research. FG and EG advised on the study design, discussed initial analysis and contributed to the final manuscript. EK and DT contributed to the study design and gave their comments on the manuscript. CL contributed to each stage of the study development, analysis, reporting, reviewed the analysis and interpretation of data, corrected the first draft, co-designed the contents of the manuscript. CL, MT, FG and EG all made a substantial contribution in preparation of the revised manuscript. All authors have participated in the design of the study and have commented critically on the initial manuscript and have approved the final version of the manuscript.

Additional material

Additional file 1

Health Professional's Interview Schedule

Click here for file

[<http://www.biomedcentral.com/content/supplementary/1472-6874-8-20-S1.doc>]

Additional file 2

Midlife Women Interview Schedule

Click here for file

[<http://www.biomedcentral.com/content/supplementary/1472-6874-8-20-S2.doc>]

Acknowledgements

We would like to thank the physicians and all women who participated in the interviews and gave their time to help in this research. Many thanks also to Mrs. Ada Markaki, clinical specialist of community health nursing at the Regional Health and Welfare system of Crete, for comments on the final draft.

References

1. Parkin DM, Pisani P, Ferlay J: **Estimates of the worldwide incidence of 25 major cancers in 1990.** *Int J Cancer* 1999, **80**:827-841.
2. Cortesi L, Chiuri VE, Ruscelli S, Bellelli V, Negri R, Rashid I, Cirilli C, Fracca A, Gallo E, Federico M: **Prognosis of screen-detected breast cancers: results of a population based study.** *BMC Cancer* 2006, **6**:17.
3. Keller B, Zemp Stutz E, Tibblin M, Ackermann-Liebrich U, Faist K, Prbst-Hensch N: **Screening mammography in Switzerland: what makes female and male physicians prescribe them.** *Swiss Med Wkly* 2001, **131**:1311-1319.
4. Santora L, Mahoney CM, Lawvere S, Englert J, Symons BA, Mirand LA: **Breast cancer screening beliefs by practice location.** *BMC Public Health* 2003, **3**:9.
5. Duffy SW, Tabar L, Chen HH, Holmqvist M, Yen MF, Abdalah S, Epstein B, Frodos E, Ljungberg E, Hedborg-Melander C, Sundbom A, Tholin M, Wiege M, Akerlund A, Wu HM, Tung TS, Chiu YH, Chiu CP, Huang CC, Smith RA, Rosén M, Stenbeck M, Holmberg L: **The impact of organized mammography service screening on breast carcinoma mortality in seven Swedish countries.** *Cancer* 2002, **95**:458-69.
6. Akker-van Marle E Van den, de Koning H, Boer R, Maas P van der: **Reduction in breast cancer mortality due to the introduction of mass screening in The Netherlands: comparison with the United Kingdom.** *J Med Screen* 1999, **6**:30-4.
7. Beckett JR, Kotre CJ, Michaelson JS: **Analysis of benefit:risk ratio and mortality reduction for the UK Breast Screening Programme.** *British Journal of Radiology* 2003, **76**:309-320.
8. Day N, Warren R: **Mammographic screening and mammographic patterns.** *Breast Cancer Res* 2000, **2**:247-51.
9. Blanks RG, Moss SM, McGahan CE, Quinn MJ, Babb PJ: **Effect of NHS breast screening programme on mortality from breast cancer in England and Wales, 1990-8: comparison of observed with predicted mortality.** *BMJ* 2000, **321**:665-669.
10. Hackshaw A: **EUSOMA review of mammography screening.** *Annals of Oncology* 2003, **14**:1193-1195.
11. Ferlay J, Autier P, Boniol M, Heanue M, Colombet M, Boyle P: **Estimates of the cancer incidence and mortality in Europe in 2006.** *Annals of Oncology* 2007, **18**:581-592.
12. Levi F, Bosetti C, Luechini F, Negri E, La Vecchia C: **Monitoring the decrease in breast cancer mortality in Europe.** *Eur J Cancer Prev* 2005, **14**:497-502.
13. Garas I, Pateras H, Tiandafilou D, Georgountzos V, Mihos , Abatzoglou M, Trichopoulos D: **Breast cancer screening in Southern Greece.** *European journal of cancer prevention* 2004, **3**:35-39.

14. Souliotis K, Lionis C: **Creating an Intergrated Health Care System in Greece: A Primary Care Perspective.** *Journal of Medical Systems* 2004, **28**:643-52.
15. Pappa E, Niakas D: **Assessment of health care needs and utilization in a mixed public – private system: the case of Athens area.** *BMC Health Services Research* 2006, **6**:146.
16. Mousiama T, Loakimidou S, Largatzi E, Kaitelidou D, Liaropoulos L: **Health technology assessment in the area of prevention: selected screening cases in Greece.** *Int J Technol Assess Health Care* 2001, **17**:338-57.
17. Brotons C, Björkelund C, Bulc M, Clurana R, Godycki-Cwirko M, Jurgova E, Kloppe P, Lionis C, Mierzecki A, Pineiro R, Pullerits L, Sammut M, Sheehan M, Tataradze R, Thireos E, Vuchak J: **Prevention and health promotion in clinical practice: the views of general practitioners in Europe.** *Preventive Medicine* 2005, **40**:595-601.
18. Griffiths FE, Green EE, Bendelow G, Blackett-Milburn K, Thompson D, Tsouroufli M: **Innovative Health Technologies at Women's Midlife: Theory and Diversity among women and Experts.** 2003. (L218252038), ESRC.
19. Dupont N, Ancelle-Park R: **Do socio-demographic factors influence mammography use of French women? Analysis of a French cross-sectional survey.** *Eur J Cancer Prev* 2006, **15**:219-24.
20. Alcaraz M, Liuch A, Miranda J, Salas MD: **Study if non participation in the breast cancer screening program in the city of Valencia (Spain).** *Gac Sanit* 2002, **16**:230-5.
21. Robin Yabroff K, Jeanne Mandelblatt S: **Interventions targeted toward patients to increase mammography use.** *Cancer Epidemiology Biomarkers & Prevention* 1999, **8**:749-757.
22. Maxwell CJ, Bancej CM, Snider J: **Predictors of mammography use among Canadian women aged 50–69: findings from the 1996/97 National Population Health Survey.** *CMAJ* 2001, **164**:329-34.
23. Flynn BS, Gavin P, Worden JK, Ashikaga T, Gautam S, Carpenter J: **Community education programs to promote mammography participation in rural New York State.** *Prev Med* 1997, **26**:102-8.
24. Ogedegbe G, Cassells AN, Robinson CM, DuHamel K, Tobin JN, Sox CH, Dietrich AJ: **Perceptions of barriers and facilitators of cancer early detection among low-income minority women in community health centers.** *J Natl Med Assoc* 2005, **97**:162-70.
25. Young FR, Severson KR: **Breast Cancer screening barriers and mammography completion in order minority women.** *Breast Cancer Research an Treatment* 2005, **89**:111-118.
26. Marlén Oliver-Vázquez, Sánchez-Ayéndez Melba, Suárez-Pérez Erick, Vélez-Almodóvar Himilce, Arroyo-Calderón Yamilet: **Breast cancer health promotion model for older Puerto Rican women: results of a pilot programme.** *Health Promotion International* 2002, **17**:3-11.
27. Halabi S, Skinner CS, Samsa GP, Strigo TS, Crawford YS, Rimer BK: **Factors associated with repeat mammography screening.** *J Fam Pract* 2000, **49**:1104-12.
28. Bazargan M, Bazargan SH, Calderon JL, Husaini BA, Baker RS: **Mammography screening and breast self-examination among minority women in public housing projects: the impact of physician recommendation.** *Cell Mol Biol (Noisy-le-grand)* 2003, **49**:1213-8.
29. Mandelblatt JS, Yabroff KR: **Breast and cervical cancer screening for older women: recommendations and challenges for the 21st century.** *Am Med Womens Assoc* 2000, **55**:210-5.
30. Tolma EL, Reininger BM, Ureda J: **What predicts a Cypriot woman's decision to obtain or not obtain a screening mammogram? Implications for the promotion of screening mammography in Cyprus.** *Eur J Cancer Prev* 2006, **15**:149-57.
31. Ganry O, Boche T: **Prevention practices and cancer screening among general practitioners in Picardy, France.** *Public Health* 2005, **119**:1023-30.
32. Kloppe P, Brotons C, Anton JJ, Clurana R, Iglesias M, Pineiro R, Fornasini M: **Preventive care and health promotion in primary care: comparison between the views of Spanish and European doctors.** *Aten Primaria* 2005, **36**:144-51.
33. Herman CJ, Lengerich EJ, Stoodt G: **Variation in recommendations for breast and cervical cancer screening among primary care physicians in North Carolina.** *South Med J* 1991, **89**:583-90.
34. Lurie N, Slater J, McGovern P, Ekstrum J, Quam L, Margolis K: **Preventive care for women. Does the sex of physician matter?** *N Engl J Med* 1993, **329**:47882.
35. Franks P, Clancy CM: **Physicians gender bias in clinical decision-making: screening for cancer in primary care.** *Med Care* 1993, **31**:2138.
36. Slikkerveer LJ: *Plural Medical Systems in the Horn of Africa* London and New York: KPI; 1990:70-71.
37. Lionis C, Vivilaki V, Slikkerveer JL: **abstract in the proceedings, EGPRN meeting in Antwerp, 15th May presentation 23.** [<http://www.egprn.org>].
38. Green J, Thorogood N: *Qualitative Methods for Health Research* London, Sage; 2004.
39. [<http://www.esrcsocietytoday.ac.uk>].
40. Patton M: *Qualitative research and evaluation methods* London, Sage publications; 2002.
41. Silverman D: *Interpreting qualitative data* London: Sage; 1993.
42. Ogedegbe G, Cassells AN, Robinson CM, DuHamel K, Tobin JN, Sox CH, Dietrich AJ: **Perceptions of barriers and facilitators of cancer early detection among low-income minority women in community health centers.** *J Natl Med Assoc* 2005, **97**:162-70.
43. Payne S: *The health of Men and Women* Cambridge: Polity Press; 2006.
44. Coughlin SS, Thompson TD, Hall HI, Logan P, Uhler R: **Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998–1999.** *Cancer* 2002, **94**:2801-12.
45. Engelman KK, Ellerbeck EF, Perpich D, Nazir N, McCarter K, Ahluwalia JS: **Office systems and their influence on mammography use in rural and urban primary care.** *J Rural Health* 2004, **20**:36-42.
46. Engelman KK, Hawley DB, Gazaway R, Mosier MC, Ahluwalia JS, Ellerbeck EE: **Impact of geographic barriers on the utilization of mammograms by older rural women.** *Journal American Geriatrics Society* 2002, **50**:62-68.
47. Lagerlund M, Anna Hedin A, Sparén P, Erik Thurjell E, Mats Lambe L: **Attitudes, Beliefs, and Knowledge as Predictors of Nonattendance in a Swedish Population-Based Mammography Screening Program.** *Prev Med* 2000, **31**:417-28.
48. Beaulieu MD, Beland F, Roy D, Falardeau M, Hebert G: **Factors determining compliance with screening mammography.** *CMAJ* 1996, **154**:1335-43.
49. Bekker H, Morrison L, Marteau TM: **Breast screening: GPs' beliefs, attitudes and practices.** *Family Practice* 1999, **16**:60-65.

Pre-publication history

The pre-publication history for this paper can be accessed here:

<http://www.biomedcentral.com/1472-6874/8/20/prepub>

Publish with **BioMed Central** and every scientist can read your work free of charge

"BioMed Central will be the most significant development for disseminating the results of biomedical research in our lifetime."

Sir Paul Nurse, Cancer Research UK

Your research papers will be:

- available free of charge to the entire biomedical community
- peer reviewed and published immediately upon acceptance
- cited in PubMed and archived on PubMed Central
- yours — you keep the copyright

Submit your manuscript here:
http://www.biomedcentral.com/info/publishing_adv.asp



4.2 **2:**

ōCancer control practicesö: Translation and cultural adaptation of an instrument in Crete, Greece.

*Maria Trigoni, Martin C. Mahoney, Joanna Moschandreas, Adelais Markaki,
Christos Lionis*

In the press
Journal of Cancer Education

TITLE: *Cancer control practices*: Translation and cultural adaptation of an instrument in Crete, Greece.

Maria Trigoni^{1,6}✉, Martin C. Mahoney^{2,3,4}, Joanna Moschandreas⁵, Adelais Markaki⁶, Christos Lionis⁶

¹ Department of Social Work, University Hospital of Heraklion, Crete, Greece

² Department of Social & Preventive Medicine (Preventive Medicine Residency Program), State University of New York at Buffalo (SUNY), Buffalo, USA

³ Division of Cancer Prevention & Population Sciences, Roswell Park Cancer Institute, Buffalo, USA

⁴ Department of Family Medicine, State University of New York at Buffalo (SUNY), Buffalo, USA

⁵ Laboratory of Biostatistics, School of Medicine University of Crete

⁶ Clinic of Social and Family Medicine, School of Medicine, University of Crete

All the authors satisfied the criteria of the international committee of Medical Journal editors (<http://icmge.org>)

✉ Corresponding author

FAX NUMBER: +302810392220

Telephone number: +302810392220

+302810210662

Email address: Martrig1@yahoo.com

Corresponding author name: Maria Trigoni

Clinic of Social and Family Medicine

Dept. of Social Medicine

School of Health Sciences

University of Crete

P.O Box 2208

Zip Code 71003

Heraklion, Crete

Greece

Abstract: Although early detection and systematic prevention of cancer improves outcomes and reduces mortality, General Practitioners (GP) effectiveness remains an issue that merits further investigation. In order to explore cancer control practices of Greek GPs, a version of the *Cancer Control Practices* (CCP) questionnaire, originally developed in Western New York in 2001, was translated and culturally adapted. Its reliability was found satisfactory in the majority of the items. The instrument can be useful in determining Greek GPs' knowledge and application of internationally established cancer-related guidelines, barriers they face in daily practice and educational or training needs.

Note: The Greek version of the CCP questionnaire is available from the Clinic of Family and Social Medicine, University of Crete website (<http://www.cgrg.gr>).

Cancer remains an important public health problem in Europe [1,2], while in Greece, it is the second leading cause of death with 25,448 deaths in 2004 (www.statistics.gr). Much discussion is taking place about the early and systematic confrontation of cancer, with prevention and early detection being among the most important strategies reducing mortality. There is widespread evidence that early screening during the asymptomatic stages results in improved outcomes [3]. Since prevention and timely detection are among the most efficient and practical strategies in reducing cancer burden [4], the role of General Practitioners (GPs) becomes crucial [5]. Nevertheless, GPs' effectiveness in implementing screening programmes, either opportunistic or population based, has not sufficiently been explored [6].

In the United Kingdom, breast and cervical screening programmes have been developed by primary health care team members who have provided information and advice to women throughout the screening process. In France, the involvement of primary care clinicians has significantly increased patient participation in colorectal screening programmes [7]. In Greece, there are no national programmes for pre-symptomatic control, although there have been isolated attempts to improve health care professionals' knowledge and skills in screening, diagnosing and managing cancer in primary care [8]. Thus, cancer prevention depends on physicians' practices based on empirical and personal assessments [9]. Considering that little is known about cancer control practices of Greek primary care physicians, it was intriguing to explore these practices as well as GPs' knowledge and application of internationally established cancer-related guidelines.

To this aim, a research team at the University of Crete developed a Greek version from the English questionnaire *Cancer Control Practices* (CCP). The Greek CCP was based on the 2001 original version developed in Western New York [10] and consisted of 27 items, which addressed clinician knowledge, attitudes and behaviours concerning delivery of general, preventive and cancer screening services, clinical practice setting and demographic information. Topics included breast cancer, colorectal cancer, prostate cancer, skin cancer, and smoking cessation. The questionnaire was translated and culturally adapted from English into Greek according to internationally accepted methodology [11]. Cultural adaptation was based on a cognitive debriefing method that aimed to identify problematic areas in terms of language, format or lack of clarity. To achieve this, a pilot test was conducted via in-depth interviews with eight (8) physicians from University Hospital of Crete. No problems were found with regard to content validity, as all items were simple, clear and understandable. The general impression of all 8 participants was that the questionnaire was relevant to their situation, and that no items needed to be rephrased. Upon completion of pilot testing, the final version was developed and sent to the developers for their consent.

To measure test-retest reliability, nineteen (19) trainee GPs who were all recruited from the University Hospital of Crete (13 men and 6 women ranging in age from 28 to 37 years), were asked to complete the questionnaire twice. We used trainee GPs because they have the same knowledge and have undergone the same basic training as the certified GP group, without any specialization in cancer prevention. The selected subjects were informed of the purpose of the research and gave their oral consent prior to implementation. Each of them received one copy of the questionnaire and was asked to return it within two weeks (response rate 100%). The second copy was given

two weeks later and they returned it within two weeks (response rate 100%). Reproducibility was assessed for each question separately using Cohen's kappa coefficient [12]. Chance-corrected agreement was found to be substantial (kappa between 0.61-0.80) or almost perfect (kappa between 0.81-1.00) for 49 variables (36%). A moderate strength of agreement (kappa between 0.41-0.60) was detected for 32 variables (24%) (Table 1). For 31 variables (23%) the kappa statistic was not calculable due to the small frequencies involved, but agreement ranged from 95% to 100%. Internal consistency was not assessed, as the vast majority of the variables are nominal, so computation of variances would have little meaning.

Table 1. Cohen's Kappa coefficient for Cancer Control Survey of Primary Care Physicians

Survey domain	# of variables	Cohen's kappa coefficient		
		Median	minimum	maximum
Breast cancer	13	0.572	0.297	0.883
Colorectal cancer	14	0.569	0.269	0.806
Skin cancer	1	0.653		
Smoking cessation	13	0.642	0.278	0.872
Lung cancer	5	0.646	0.448	0.782
Prostate cancer	5	0.612	0.339	0.872
Information sources for screening guidelines	9	0.617	0.281	0.771
Barriers to screening	6	0.774	0.612	0.872

The Greek version of CCP seems to have some important implications for national health policy and education of health professionals. Survey results may also review important insights into clinical practice. The instrument can be useful in determining, which practices Greek GPs actually use, how they are informed and which barriers they face in daily practice. It can also contribute to the assessment of educational needs of trainees in general practice and to the development of primary health care research capacity as well as health planning and policy making at a national and regional level.

Our collaboration demonstrates the feasibility of adapting a cancer control survey instrument developed in the United States for use in Greece. In addition to careful attention to issues of translation and culture, frequent communication and interactions among collaborators are essential. We believe that similar undertakings across diverse cultural settings can contribute to advances in cancer prevention and control efforts. Results from this project will be presented in future communications.

References

1. Boyle P., Ferlay J. Cancer incidence and mortality in Europe. *Annals of Oncology*. 2005; 16: 481-488.
2. Ferlay J., Autier P., Boniol M., et al. Estimates of the cancer incidence and mortality in Europe in 2006. *Annals of Oncology*. 2007; 18: 581-592.

3. Rennert G. Prevention and early detection of colorectal cancer--new horizons. *Recent Results Cancer Res.* 2007; 174: 179-87.
4. Greenwald P. A favorable view: progress in cancer prevention and screening. *Recent Results Cancer Res.* 2007; 174: 3-17.
5. Ganry O., Boche T. Prevention practices and cancer screening among general practitioners in Picardy, France. *Public Health.* 2005; 119: 1023-30.
6. Lionis C. Colorectal cancer screening and the challenging role of general practitioner/family physician: an issue of quality. *Quality in Primary Care.* 2007; 15.
7. Sammerton N. General practitioners and cancer. *BMJ* 2000; 320: 1090-1.
8. Lionis C., Samoutis G., Kouroussis C., et al.. Teaching cancer management to primary care health staff: the first experience gained from Crete. *J Cancer Educ.* 2005; 20: 6-7.
9. Mousiama T., Loakimidou S., Largatzi E., et al.. Health technology assessment in the area of prevention: selected screening cases in Greece. *Int J Technol Assess Health Care.* 2001; 17: 338-57.
10. Santora L.M., Mahoney M.C., Lawvere S., et al.. Breast cancer screening beliefs by practice location. *BMC Public Health.* 2003; 3: 9.
11. Medical Outcomes Trust. Trust introduces new translation criteria. *Medical Outcomes Trust Bulletin.* 1997; 5: 164.
12. Landis J. R., Koch G.G. The Measurement of Observer Agreement for Categorical Data. *Biometrics.* 1977; 33: 159-174.

4.3 3:

:
;

„ .

(23 2009)

;

1-4. American Cancer Society 2008
182.460 40.480
(<http://www.cancer.org>). 250.000

5

8 19%,
5.
100.000 5, 81,8 2006 21,7 6.

7-9,

4.

10,11

12,13,

12,13

/ ()

14,15

16.

17,18,

«

»¹⁹.

16,17

20

14,15

16,18

18

12,13

12,13

16,

;

∅

16

16

1. Parkin DM, Pisani P, Ferlay J. Estimates of the worldwide incidence of 25 major cancers in 1990. *Int J Cancer*, 80:827-841, 1999.
2. Cortesi L, Chiuri VE, Ruscelli S, Bellelli V, Negri R, Rashid I, Cirilli C, Fracca A, Gallo E, Federico M. Prognosis of screen-detected breast cancers: results of a population based study. *BMC Cancer*, 6:17, 2006.
3. Santora L, Mahoney C M, Lawvere S, Englert J, Symons B A., Mirand L A. Breast cancer screening beliefs by practice location. *BMC Public Health*, 3:9, 2003.
4. <http://www.who.int/whosis/whostat/en/> World Health Statistics 2008, World Health Organization.
5. Levi F, Bosetti C, Lucchini F, Negri E, Vecchia C. Monitoring the decrease in breast cancer mortality in Europe. *Eur J Cancer Prev*. 14(6):497-502, 2005.
6. Ferlay J, Autier P, Boniol M et al. Estimates of the cancer incidence and mortality in Europe in 2006. *Annals of Oncology*, 18:581-592, 2007.
7. Duffy SW et al.;The impact of organized mammography service screening on breast carcinoma mortality in seven Swedish counties. *Cancer*, 95:458-69, 2002.
8. Beckett J R, Kotre C J, Michaelson J S. Analysis of benefit:risk ratio and mortality reduction for the UK Breast Screening Programme. *British Journal of Radiology*, 76: 309-320, 2003.
9. Blanks R G, Moss S M, McGahan C E, Quinn M J, Babb P J. Effect of NHS breast screening programme on mortality from breast cancer in England and Wales, 1990-8: comparison of observed with predicted mortality, *BMJ*, 321: 66566697,2000.
10. Duport N, Ancelle-Park R. Do socio-demographic factors influence mammography use of French women? Analysis of a French cross- sectional survey. *Eur.J Cancer Prev*, 15:219-24, 2006.
11. Alcaraz M, Liuch A, Miranda J, Salas MD. Study if non participation in the breast cancer screening program in the city of Valencia (Spain). *Gac Sanit.*, 16:230-5, 2002.

12. Engelman KK, Hawley DB, Gazaway R, Mosier MC, Ahluwalia JS, Ellerbeck EE. Impact of geographic barriers on the utilization of mammograms by older rural women. *Journal American Geriatrics Society*, 50:62-68, 2002.
13. Engelman KK, Ellerbeck EF, Perpich D, Nazir N, McCarter K, Ahluwalia JS. Office systems and their influence on mammography use in rural and urban primary care. *J Rural Health*, 20:36-42, 2004.
14. Halabi S, Skinner CS, Samsa GP, Strigo TS, Crawford YS, Rimer BK. Factors associated with repeat mammography screening. *J Fam Pract*, 49:1104-12, 2000.
15. Bazargan M, Bazargan SH, Calderon JL, Husaini BA, Baker RS. Mammography screening and breast self-examination among minority women in public housing projects: the impact of physician recommendation. *Cell Mol Biol (Noisy-le-grand)*, 49:1213-8, 2003.
16. Trigoni M, Griffiths F, Tsiftsis D, Koumantakis E, Green E, Lionis C. Mammography screening: views from women and primary care physicians in Crete. *BMC Womens Health*, 7:8:20, 2008.
17. Ganry O, Boche T. Prevention practices and cancer screening among general practitioners in Picardy, France. *Public Health*, 119:1023-30, 2005.
18. Brotons C, Bjorkelund C, Bulc M, Clurana R, Godycki ó Cwirko M, Jurgova E, Kloppe P, Lionis C, Mierzecki A, Pineiro R, Pullerits L, Sammut M, Sheehan M, Tataradze R, Thireos E, Vuchak J. Prevention and health promotion in clinical practice: the views of general practitioners in Europe. *Preventive Medicine*, 40:595-601, 2005.
19. , , , 12:7-9, 2000.
20. Maxwell CJ, Bancej CM, Snider J. Predictors of mammography use among Canadian women aged 50-69: findings from the 1996/97 National Population Health Survey. *CMAJ*, 164:329-34, 2001.

4.4 **4:**

Breast cancer screening knowledge among rural primary care physicians in Crete,
Greece

Trigoni M., Mahoney MC, Moschandreas J, Tsiftsis D., Koumantakis E., Lionis C

6 2009

Health and Social Care in the Community

TITLE: Breast cancer screening knowledge among rural primary care physicians in Crete, Greece

Authors:Trigoni M.¹, Mahoney MC^{2,3,4}, Moschandreas J⁵, Tsiftsis D.⁶, Koumantakis E.⁷, Lionis C⁸

¹Social worker, PhD candidate, Head of Social Work Department, University Hospital of Heraklion, Crete, Greece

² Associate Professor, Department of Social & Preventive Medicine (Preventive Medicine Residency Program), School of Public Health & Health Professions, State University of New York (SUNY) at Buffalo, Buffalo, USA

³Division of Cancer Prevention & Population Sciences, Roswell Park Cancer Institute, Buffalo, USA

⁴Department of Family Medicine, SUNY at Buffalo, Buffalo, USA

⁵Assistant Professor, Department of Social Medicine, Faculty of Medicine, University of Crete, Greece

⁶Professor, Head of Department of Surgical Oncology, School of Medicine, University of Crete

⁷Professor, Head of Department of Obstetrics and Gynecology, School of Medicine, University of Crete

⁸Associate Professor, Head of Clinic of Social and Family Medicine, School of Medicine of Crete, Greece

All the authors satisfied the criteria of the international committee of Medical Journal editors (<http://www.icmge.org>) and contributed equally to this work.

§Corresponding author

Corresponding author:
Maria Trigoni, PhD student
Clinic of Social and Family Medicine
Dept. of Social Medicine
School of Medicine
University of Crete
P.O Box 2208
Zip Code 71003
Heraklion, Crete.

E-mail addresses:

MT:Martrig1@yahoo.com
MCM: martin.mahoney@roswellpark.org
DT: tsiftsis@med.uoc.gr
EK: obgyn@med.uoc.gr
J.M: joanna@med.uoc.gr
CL:lionis@galinos.med.uoc.gr

Abstract

BACKGROUND: Breast cancer represents a leading cause of cancer morbidity and mortality among women in both developed and developing countries. A physician's recommendation for preventive care, such as use of mammography, is a strong stimulus to patient action. The aim of this study was to assess levels of knowledge regarding breast cancer screening among primary care physicians in rural areas of Crete. **METHODS:** *Design:* Cross-sectional, self-administered survey. *Setting:* 14 Primary Health Care Centres of Crete, Greece. *Participants:* All 106 general practitioners and internists, employed as of October 2004 and practicing at those Health Centres were eligible. In addition, a random sample of 45 trainee General practitioners (GPs) from a total of 83, who were working at 14 Health Centres of Crete, was also eligible. *Instrument:* The questionnaire 'Cancer Control Practices' (CCP), developed in the USA, was translated into Greek and distributed as a self-

administered survey. *Main outcome measures:* Current practices and knowledge-based responses to 4 items on breast cancer screening practices. **RESULTS:** Overall response rate was 55% (PCPs=53%; trainee GPs=60%). In general, respondents demonstrated limited awareness of recommendations for breast cancer screening. Among the 83 respondents, agreement with 'correct' responses ranged from 31% to 58% for the individual survey items. Overall, respondents exhibited considerable variation in responses with just 4% answering all four items correctly, 25% answering three out of four items correctly and 14% failing to answer any item correctly. **CONCLUSION:** This survey revealed limited knowledge among primary care physicians to well-publicized breast cancer screening guidelines. Education programs targeted to primary care physicians to communicate breast screening recommendations represent an important initial step in the assuring the provision of appropriate breast screening to all eligible women.

Key words: Primary care, general practice; mammography; mass screening; knowledge; practices.

INTRODUCTION

Breast cancer is the most commonly diagnosed cancer in both the developed and developing worlds and a significant cause of mortality and morbidity among women (Parkin *et al.* 1999, Cortesi *et al.* 2006, Keller *et al.* 2001, Santora *et al.* 2003). In Europe, breast cancer is the leading cause of death from cancer in women (429 900 cases, 13.5% of all cancer cases) (Ferlay *et al.* 2007, Boyle & Ferlay 2005) and it is the same in Greece where the age-standardised incidence and mortality rates (ASRs,

European Standard) for breast cancer per 100.000 in 2006 were 81,8 and 21,7 (Ferlay *et al.* 2007). There is widespread evidence that early screening during the asymptomatic stages results in improved outcomes (Greenwald 2007, Rennert 2007), while population-based studies have shown that mammography can be effective in reducing breast cancer mortality (Achat *et al.* 2005) and improving survival rates (Boling 2005, Smith *et al.* 2008).

There is a growing interest in international literature about the involvement of primary care physicians in breast cancer early detection and their critical role in preventive services through direct recommendations to patients (Herman *et al.* 1996, Bekker *et al.* 1999, Santora *et al.* 2003). Primary care physicians play a key role in the delivery of clinical preventive and early detection services, including mammography utilization (Ganry & Boche 2005, Constanza *et al.* 1992). Nevertheless, PCPs effectiveness in implementing screening programmes, either opportunistic or population-based, has not sufficiently been explored (Lionis 2007).

National screening programmes for breast cancer are available in many countries (Shapiro *et al.* 1998). The majority of studies investigating predictors of breast screening behaviour have been carried out in North America and Australia, where breast-screening referral is organized directly by the doctor. Within the UK, breast screening is run independently by the National Breast Screening Programme (NBSP) as part of a national programme, initiated in 1988, with an annual uptake rate of about 70% among the target group of women aged 50-64 years (Shapiro *et al.* 1998). In Italy, there are 52 regional programmes involving women aged 50-69 years. Although the US and Switzerland do not have national population-based programmes,

opportunistic screening through physician offices is widespread in both countries (Domenighetti *et al.* 2003).

In Greece, there are no national programmes for breast cancer screening, although there have been isolated attempts to improve health care professionals' knowledge and skills in screening, diagnosing and managing cancer in primary care (Lionis *et al.* 2005). Over the past few years Greece has undertaken several endeavours, aimed at modernizing and improving the national health care service, through the enhancement of primary care clinical services (Souliotis & Lionis 2004). Poor performance of Greek GPs in health promotion and disease prevention as it has been reported a few years ago (Brotons *et al.* 2005) requires prompt attention and ameliorating actions (Lionis *et al.* 2004).

Little is known about breast screening practices of Greek primary care physicians although cancer prevention depends on physicians' empirical and personal assessments (Mousiama *et al.* 2001). In one previous qualitative study which explored the views of both PCPs and women in Crete in relation to breast screening, the women reported that their physician was a key person in recommending mammography although only a small number of physicians reported suggesting mammography to all eligible women (Trigoni *et al.* 2008). In order to assess the extent to which PCPs serving rural populations in Crete are aware of current guidelines for breast cancer screening, we decided to explore PCPs' knowledge and application of internationally established cancer-related guidelines. This collaborative study aims to: 1) describe knowledge and practices with regard to breast cancer screening among primary care clinicians in rural Crete and 2) explore the extent to which primary care physicians routinely follow guidelines for breast screening.

Implications for PC training, continuing medical education and policy setting in Greece are also discussed.

METHODS

Study design

A cross-sectional survey of primary care physicians was undertaken from October 1st, 2004 to November 30th, 2004.

Setting

All 14 Primary Health Care Centers (PHCCs) serving the rural population of Crete (283,694 residents) were included. PHCCs in Greece are staffed by GPs, internists, nurses, midwives, health visitors, lab assistants and other administrative personnel, providing health promotion, prevention and acute care services free of charge for all attendants (Souliotis & Lionis 2004).

Study population - Participants

All 106 primary care physicians (91 general practitioners and 15 internists) employed and actively practicing at the PHCCs were eligible and were invited to participate. In addition, a random sample of 45 trainee GPs, from a total of 83, serving the rural practices during the survey period were also invited to participate.

Survey instrument

The questionnaire *“Cancer Control Practices”* (CCP) (Santora *et al.* 2003) was used in its Greek version that has been translated and validated according to international standards (Trigoni *et al.* 2009 in print). The questionnaire’s 27 items explore

physicians' knowledge, attitudes and behaviours concerning delivery of general preventive and cancer screening service, as well as respondent demographic characteristics. The survey included items relating to breast cancer, colorectal cancer, prostate cancer, skin cancer, smoking cessation, barriers to implementing cancer-related practices and level of interest for continuing medical education programs. Respondent demographic information included age, gender, professional group, board certification, specialty, practice structure, work schedule, and involvement with trainee supervision. This manuscript presents findings in regards to breast cancer screening only, with responses to the following four multiple-choice items used to examine variations in breast cancer screening practices:

Item 1. "At what age should an average-risk woman initiate screening for breast cancer using clinical breast examination?" [accepted answer: 20 years. (Smith RA, 2001)]

Item 2. "At what age should an average-risk woman get a baseline mammogram?" [accepted answer: 40 years; While no guideline addresses a baseline mammogram, the American College of Obstetrics and Gynecology did previously recommend this].

Item 3. "At what age should an average-risk woman begin having mammograms every 1-2 years?" [accepted answer: 40 years; Smith RA, 2002; ACOG 1997; AMA; USPSTF]

Item 4. "At what age should an average-risk woman begin yearly mammograms?" [accepted answer: 50 years; Smith RA, 2002; ACOG 1997; AMA]

Ethical considerations

All participants were informed in person by MT who visited every PHCC in Crete and received written information about the study's aim, the voluntary nature of participation and assurance of confidentiality. Participants were asked to sign a consent form upon obtaining agreement to carry out the study from the Director of each PHCC. The questionnaire was distributed to participants and was returned to MT within 15-20 days.

Data analysis

Descriptive statistics were calculated for all variables. Pearson's chi-square test was used to assess possible associations between demographic and professional characteristics of respondents in the case of categorical variables. Differences in age and experience between attending and trainee physicians were examined using non-parametric tests, due to the skewness of the distributions.

For each of these four knowledge-based questions, unconditional logistic regression was used to estimate the odds of a correct answer among respondents according whether they were attending or trainee physicians. In addition, multivariable models were fitted in order to further adjust for other characteristics (location of practice, gender, age group). Odds ratios are presented with accompanying 95% confidence intervals. Continuous variables were dichotomised at the median for these analyses. A summary index was created based on the total number of correct responses in each of the correct four relevant items (ranging from zero to four) (Santora *et al.* 2003). This variable was subsequently dichotomised according to whether or not the total number of correct responses was greater than two out of four (Santora *et al.* 2003). Binary

logistic regression was used to assess possible predictors of the odds of having more than two out of four correct responses. Results are presented as adjusted odds ratios and associated 95% confidence intervals. A 5% significance level was selected. The software package SPSS 15.0 was used throughout.

RESULTS

Response rate

Of the 151 PCP physicians who were invited to participate, 83 responded (56 primary care physicians and 27 trainee GPs) with an overall response rate of 55% (PCPs 53%; trainee GPs 60%).

Demographics

Demographic characteristics of respondents are presented in Table 1. Of the physicians who responded, 43 were female (52%), the mean age was 38 years (range 25 to 60 years) and 77 (93%) reported working full-time.

Regarding the age to initiate clinical breast examination (CBE) for an average risk female patient, 34 (41%) of physicians noted that this should be initiated at age 20 years (figure 1). Twenty-six (31%) of respondents physicians correctly reported that an average-risk woman should complete a baseline mammogram at age 40 years. Fifty-eight (58%) of the respondents correctly indicated that an average-risk woman should begin having mammograms every one to two years starting at the age of 40 years. Thirty-two (39%) of the respondents reported that an average risk woman should complete annual mammography screening at age 50 years. Responses did not differ between attending physicians and trainees in univariate analyses. Multivariate

modeling failed to show any significant difference in correct responses to any of the four individual knowledge items, or the summary measure, by physician demographic characteristics (attending/trainee, gender, age group, practice duration or practice location).

When the summary index based on the total number of "correct" responses to the 4 knowledge items (range from zero to four correct) was reviewed, only 3 (4%) of the respondents answered all four items "correctly," twenty-one (25%) of the respondents answered three out of the four items "correctly," whilst fourteen 14 (17%) of the respondents did not answer correctly any of the four items. The likelihood of providing correct responses did not differ between attending and trainee physicians; multivariate modelling did not reveal differences in the summary scores by physician demographic characteristics.

In addition, the two most commonly reported barriers to implementing cancer control services in clinical practice were lack of time (41%) and the lack of office organization (36%). Another notable finding was the breadth of differing sources of information on breast cancer screening guidelines: published articles, 73,5%; Greek cancer-prevention society, 67,6%; lectures, 57,8%; professional medical their specialty society 28,9%; Ministry of Health and Welfare, 25,3%; Institute of Preventive Medicine, 19,3%; research organizations, 13,3%; and, professional medical society 9,6%.

Discussion

Main findings

Our study demonstrates a limited awareness of international guidelines on breast cancer screening among primary care physicians in Crete, Greece. In general, the level of physicians' knowledge for each of the four items was low, with agreement ranging from 31% to 58% for the individual breast screening items, indicating knowledge gaps in regard to timing and frequency of breast screening. These results confirm findings from a recent qualitative study in rural Crete exploring physicians' views and practices in regards to mammography screening (Trigoni *et al.* 2008). In that particular study, physicians mentioned they would recommend mammography only to women presenting with clinical symptoms or who had palpable nodules, whereas only a few would suggest mammography to all eligible women according to international guidelines. That finding suggests confusion between use of diagnostic mammography and screening mammograms targeting asymptomatic women. It is therefore not surprising that physicians were not well-informed about clinical guidelines for breast cancer early detection. While it is not possible to infer breast screening knowledge levels across other areas of Greece, it is likely a problem of similar magnitude impacting the entire primary care infrastructure (Santora 2003).

Although previous research has shown that differences in rates of breast cancer screening exist based on primary care physicians' age, gender, years of training and specialty (Herman *et al.* 1996), we did not note any differences between responses to the knowledge items and demographic characteristics of physician respondents. This may reflect the gaps in cancer control training during undergraduate medical studies or during specialty training programs. As a result, cancer screening behaviors likely

reflect each physician's individual level of motivation and attention to preventive care. While others have noted that affiliation between the University and PHCs, participation in research networks or in previous educational programmes (Lionis, *et al.* 2005), or the employment of graduate of University of Crete can influence breast screening, these associations were not noted in the present study.

Despite findings that mammography utilization rates among US females have gradually increased throughout the past decade, mammography as a screening tool is only effective when conducted on a regular basis (Engelman *et al.* 2004). In Greece there are no national guidelines for breast cancer screening or an office health policy statement addressing mammography screening. There have been local initiatives such as a pilot study by the Hellenic Society of Oncology for early detection of breast cancer. In this pilot study in Ilia and Messinia in the Peloponesos, in Southern Greece women aged 40-64 years were invited for screening and a participation rate of 52,48% was reported (Garas *et al.* 2004). Given the lack of a national health policy on breast cancer screening, clinicians are faced with the need to consult multiple sources for guidance including international organizations, medical specialty groups, and various publications. (Halabi 2000, Santora 2003). This was confirmed in our study with the notable finding that the physicians reported multiple sources of information on breast cancer screening guidelines which likely yields confusion among providers stemming from the variable recommendations (Halabi 2000, Santora 2003). For instance, the National Cancer Institute (NCI, United States) recommends mammograms every 1 to 2 years for women aged 40-49 years and annually for women aged 50 years and older (Halabi 2000). The American Cancer Society (ACS) guidelines recommend a combination of clinical breast examination (CBE) and regular mammography

beginning at age 40 years (Smith 2007; Smith 2008). In contrast, the American Academy of Family Physicians and the 2nd United States Preventive Services Task Force (USPSTF) advise mammography every 1-2 years for women aged 50-69 years (Santora *et al.* 2003). While various professional organizations differ from the NCI in regards to optimal screening intervals, they all endorse the importance of regular screening (Halabi 2000). A recent meta-analysis noted multiple factors influencing use of clinical guidelines (Francke *et al.* 2008).

Many countries have implemented breast cancer screening programs, which differ from those in the United States (Smith *et al.* 2007; Smith 2008), due to variable interpretations of published studies. As an example, many countries do not recommend mammographic screening prior to the age of 50 years. Despite these international differences, the focus of findings from this study should not be on the proportion of "correct" responses, but rather on the variability in responses across this group of primary care clinicians. Thus, regardless of which category is identified as "acceptable", responses to each item were mixed, as was the summary index, translating into suboptimal rates of breast screening in the community. Taken together, these findings suggest an opportunity to develop and implement continuing medical education program to both educate and reduce variations.

Another finding of note was the sizable proportion of physicians who reported insufficient time to discuss mammography screening and poor office organization as the most important barriers to recommending cancer-screening services. This observation is consistent with results from a qualitative research study in a similar region of Crete (Trigoni *et al.* 2008) and several studies in the United States (Brotons

et al. 2005, Ganry & Boche 2005, Kloppe *et al.* 2005). Physicians can modify their office practice policies and procedures to empower other office staff to address this important issue, thereby both enhancing clinical care and allowing the physician to focus on other issues. However, the development of an office-based approach to breast cancer early detection requires a clear understanding of breast cancer screening guidelines. Establishing a national approach to breast screening requires development of a national health policy statement, financial resources, physical resources (e.g., mammography units, quality control monitoring systems), human resources (e.g., mammography technicians and mammographers/radiologists), insurance coverage and patient education campaigns. While recommendation from PCPs can motivate patients, public education campaigns can complement those messages and help to create patient demand for breast cancer screening services. (Trigoni *et al.* 2008).

Physicians who are knowledgeable and committed cancer early detection can help to encourage the delivery of general preventive care and more specifically, increase women's awareness regarding the benefits of breast cancer screening. Women's fears about mammography outcomes may be overcome if physicians emphasize the concept of prevention and focus on the advantages of mammography (Lionis *et al.* 2004). Efforts to educate primary care physicians, about the appropriateness and importance of regular mammographic screening among asymptomatic women must be accelerated. Continuing medical education programs need to emphasize the importance of evidence-based cancer screening guidelines along with strategies for implementation in primary care office setting (Symons *et al.* 2002). Practice enhancements, such as office systems to systematically identify eligible patients and track screening outcomes, as well as involving other members of the primary care

team (i.e. physician assistants, nurses, social workers) in breast cancer screening delivery, will yield improved screening rates (Klabunde *et al.* 2003).

Study implications

There are some important messages derived from this study that should be conveyed to health policy makers who are responsible for the design and implementation of the national health system of Greece. From a health policy standpoint, a breast cancer screening guideline should be developed to provide clinicians with information about when to begin screening, how frequently to screen, and potentially, when to end screening. The available of data documenting rates of cancer screening can help to identify local deficiencies in the delivery of preventive services, thereby leading to practice improvement programs. At a national level, health authorities should complete broadly based surveys to document clinician knowledge/practices and to understand current access to mammography by women. From an educational standpoint, training programs can be useful to address the topic of cancer control during both undergraduate studies and later on throughout the career continuum. Physicians' knowledge may be improved through participation in didactic lectures, use of printed materials and attendance of internet based programs. Furthermore, academic centers, such as University of Crete, might be willing to take a leadership role in developing and disseminating these educational programs.

Study limitations & strengths

A number of limitations of our study should be noted. This study was restricted to Crete and it should not be assumed that our findings are representative of other areas of Greece or non-primary care physicians. No demographic data were available from

survey non-responders, so direct comparisons could not be made. However, since primary care clinicians deliver the bulk of preventive care, these data may reflect a "best case" scenario. Given the dearth of studies on this topic in Greece, this study provides valuable information suggesting the need for the immediate development of medical education programs and a national health policy on breast cancer screening which to emphasize the importance of this issue and to assure access by all age-eligible women. In addition, our response rate was somewhat higher than typically encountered in similar surveys of health professionals and was based on a sizable number of physicians who provided medical care for more than 280,000 persons.

Conclusion

Limited knowledge regarding breast cancer screening recommendations suggests that suboptimal breast cancer screening is occurring among rural women in Crete. Development of a national health policy promoting breast cancer screening, in combination with the delivery of continuing medical education programs for physicians can be used as a foundation to address knowledge gaps and to expand breast cancer screening in Greece.

Authors' contributions

MT was the principal investigator for the study. She participated in study concept and design, translation and adaptation of the questionnaire, carried out data collection and data entry, participated in analysis, wrote the initial manuscript, and re-wrote the final manuscript. CL contributed to each stage of the study; he conceived the study design, participated in the translation/ adaptation process, revised the first draft and re-wrote the final manuscript. MCM provided the approval for use the survey instrument as

well as consultation during translation, adaptation, data analysis, revision of the first draft, and rewriting the final manuscript. MJ participated in analysis and interpretation of data and co-wrote the manuscript. EK and DT contributed to the study design and gave their comments on the manuscript. All authors have participated in the design of the study and have commented critically on the initial manuscript and have approved the final version of the manuscript.

Acknowledgements

We would like to thank all the general practitioners, internists and physician trainees who participated in our research and contributed their time to answering the questionnaire.

Conflict of interest

The authors declare that they have no competing interests.

References

1. Achat H., Close G., Taylor R., (2005) Who has regular mammograms? Effects of knowledge, beliefs, socioeconomic status, and health-related factors. *Prev Med.* **41**, 312-20.
2. Bekker H., Morrison L., Marteau TM. (1999) Breast screening: GPs' beliefs, attitudes and practices. *Family Practice* **16**, 60665.
3. Boling W., Laufman L., Lynch G., Weinberg A. (2005) Increasing mammography screening through inpatient education. *J Cancer education* **20**, 247-250.

4. Boyle P., Ferlay J. (2005) Cancer incidence and mortality in Europe. *Annals of Oncology* **16**, 481-488.
5. Brotons C., Bjorkelund C., Bulc M., Clurana R., Godycki ó Cwirko M., Jurgova E., Kloppe P., Lionis C., Mierzecki A., Pineiro R., Pullerits L., Sammut M., Sheehan M., Tataradze R., Thireos E., Vuchak J. (2005) Prevention and health promotion in clinical practice: the views of general practitioners in Europe. *Preventive Medicine* **40**, 595-601.
6. Constanza ME., Stoddard AM., Zapka JG., Gaw VP., Barth R. (1992) Physician compliance with mammography guidelines: barriers and enhancers. *J Am Board Fam Pract.* **5**, 143-52.
7. Cortesi L., Chiuri VE., Ruscelli S., Bellelli V., Negri R., Rashid I., Cirilli C., Fracca A., Gallo E., Federico M. (2006) Prognosis of screen-detected breast cancers: results of a population based study. *BMC Cancer* **23**, 6-17.
8. Domenighetti G., D'Avanzo B., Egger M., Berrino F., Perneger T., Mosconi P., Zwahlen M. (2003) Women's perception of the benefits of mammography screening: population-based survey in four countries. *Int J Epidemiol.* **32**, 816-21.
9. Engelman KK., Ellerbeck EF., Mayo MS., Markello SJ., Ahluwalia JS. (2004) Mammography facility characteristics and repeat mammography use among Medicare beneficiaries. *Prev Med.* **39**, 491-7.
10. Ferlay J., Autier P., Boniol M., et al. (2007) Estimates of the cancer incidence and mortality in Europe in 2006 *Annals of Oncology* **18**, 581-592.
11. Francke A., Smit C. M., De Veer JE A., Mistiaen P. (2008) Factors influencing the implementation of clinical guidelines for health care professionals: A systematic meta-review. *BMC Medical Informatics and Decision Making* **8**, 38.

12. Ganry O., Boche T. (2005) Prevention practices and cancer screening among general practitioners in Picardy, France. *Public Health* **119**, 1023-30.
13. Garas I., Pateras H., Tiandafilou D., Georgountzos V., Mihas, Abatzoglou M., Trichopoulos D. (2004) Breast cancer screening in Southern Greece. *European Journal of cancer prevention* **3**, 35-39.
14. Gorin SS., Ashford AR., Lantigua R., Hossain A., Desai M., Troxel A., Gemson D. (2006) Effectiveness of academic detailing on breast cancer screening among primary care physicians in an underserved community. *J Am Board Fam Med.* **19**, 110-21.
15. Greenwald P. (2007) A favourable view: progress in cancer prevention and screening. *Recent results cancer Res.* **174**, 3-17.
16. Halabi S. (2000) Factors associated with repeat mammography screening. *J Fam. Pract.* **49**, 1104-1112.
17. Herman CJ., Lengerich EJ., Stoodt G. (1996) Variation in recommendations for breast and cervical cancer screening among primary care physicians in North Carolina, 1991. *South Med J.* **89**, 583-90.
18. Keller B., Zemp Stutz E., Tibblin M., Ackermann- Liebrich U., Faisst K., Prbst ó Hensch N. (2001) Screening mammography in Switzerland: what makes female and male physicians prescribe them. *Swizz Med Wkly* **131**, 311-319.
19. Klabunde CN., Frame PS., Meadow A., Jones E., Nadel M., Vernon SW. (2003) A national survey of primary care physicians' colorectal cancer screening recommendations and practices. *Prev Med.* **36**, 352-62.
20. Kloppe P., Brotons C., Anton JJ., Ciurana R., Iglesias M., Pineiro R., Fornasini M. (2005) Preventive care and health promotion in primary care: comparison between the views of Spanish and European doctors. *Aten Primaria* **36**, 144-51.

21. Lionis C. (2007) Colorectal cancer screening and the challenging role of general practitioner/family physician: an issue of quality. *Quality in Primary Care* **15**, 129-31.
22. Lionis C., Samoutis G., Kouroussis C., Trigoni M., Georgoulas V. (2005) Teaching cancer management to primary care health staff : the first experience gained from Crete. *J Cancer Educ.* **20**, 6-7.
23. Lionis C., Tsiraki M., Bardis V., Philalithis A. (2004) Seeking quality improvement in primary care in Crete, Greece: the first actions. *Croat Med J.* **45**, 599-603.
24. Mousiama T., Loakimidou S., Largatzi E., et al. (2001) Health technology assessment in the area of prevention: selected screening cases in Greece. *Int J Technol Assess Health Care* **17**, 338-57.
25. Parkin DM., Pisani P., Ferlay J. (1999) Estimates of the worldwide incidence of 25 major cancers in 1990. *Int J Cancer* **80**, 827-841.
26. Rennert G. (2007) Prevention and early detection of colorectal cancer--new horizons. *Recent Results Cancer Res.* **174**, 179-87.
27. Santora L., Mahoney C. M., Lawvere S., Englert J., Symons B. A., Mirand L. A. (2003) Breast cancer screening beliefs by practice location. *BMC Public Health* **3**, 9.
28. Shapiro S., Coleman EA., Broeders M., Codd M., de Koning H., Fracheboud J. et al. (1998) Breast cancer screening programmes in 22 countries: current policies, administration and guidelines. International Breast Cancer Screening Network (IBSN) and the European Network of Pilot Projects for Breast Cancer Screening. *Int J Epidemiol* **27**, 735-42.
29. Smith R., Cokkinides V., Eyre H. (2007) Cancer Screening in the United States, 2007 A Review of Current Guidelines, Practices, and Prospects *CA Cancer J Clin.* **57**, 90-104.

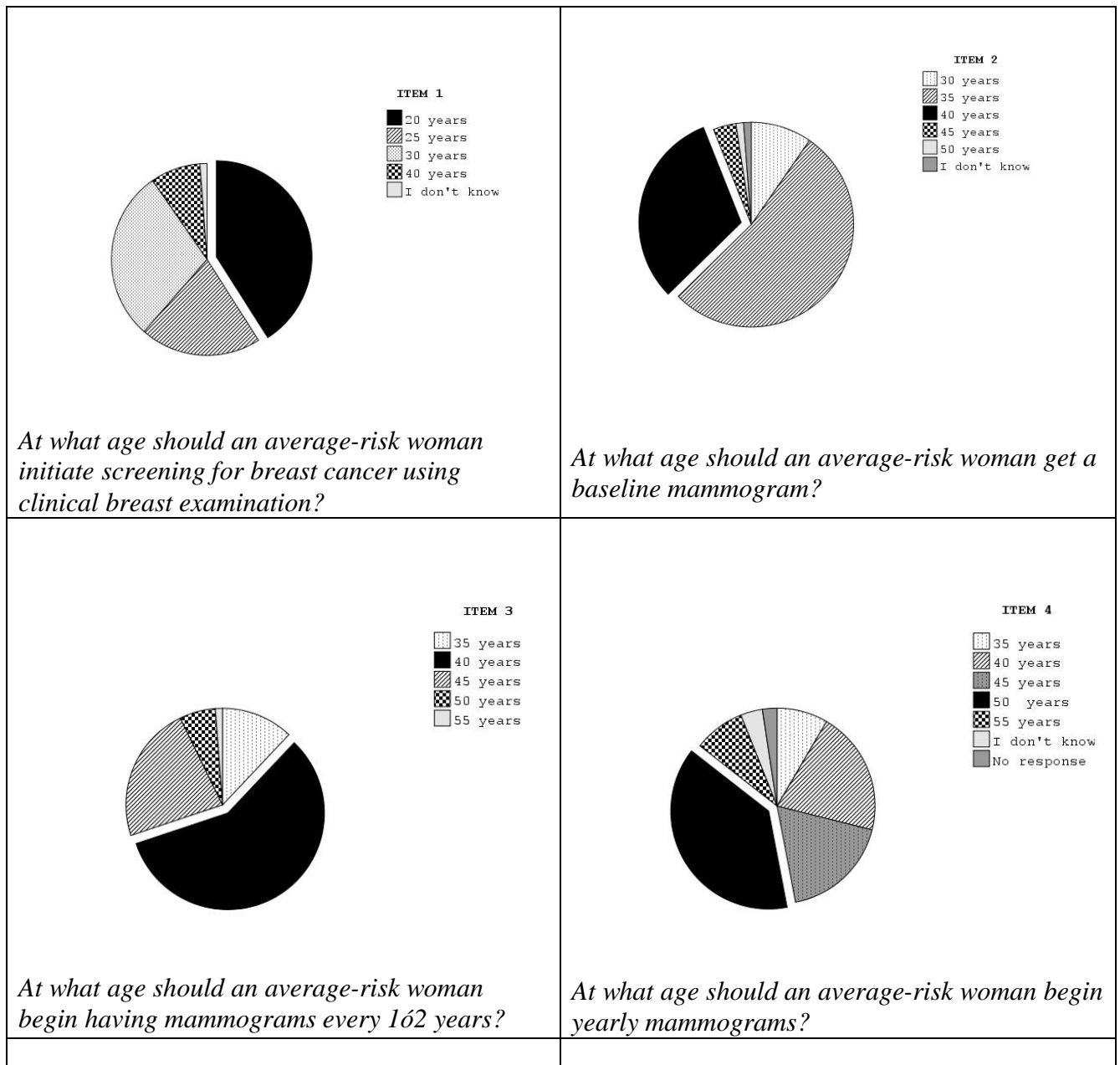
30. Smith RA, Cokkinides V, von Eschenbach AC, Levin B, Cohen C, Runowicz CD, Sener S, Saslow D, Eyre HJ (2002) American Cancer Society guidelines for the early detection of cancer. American Cancer Society. *CA Cancer J Clin.* **52**, 8-22.
31. Smith RA, et al (2008) Cancer Screening in the US 2008. *CA-a cancer journal for clinicians*, 2008.
32. Souliotis K., Lionis C. (2004) Creating an Intergrated Health Care System in Greece : A Primary Care Perspective. *Journal of Medical Systems* **28**, 3-56.
33. Symons AB, Mahoney MC, Englert J, Mirand AL. (2002) Variations in approaches to breast cancer screening among primary care physicians. *J Cancer Educ.* **17**, 205-10.
34. Trigoni M., Mahoney M., Moschandrea J., Markaki M., Lionis C. Cancer control practicesö: Translation and cultural adaptation of an instrument in Crete, Greece. *Journal of Cancer Education* (accepted).
35. Trigoni M., Griffiths F., Tsiftsis D., Koumantakis E., Green E., Lionis C. (2008) Mammography screening: views from women and primary care physicians in Crete. *BMC Women's Health* **7**, 8-20.

Table 1. Demographic characteristics of participants (n=83) by training status.

	Attending physicians (n=56)	Trainee GPs (n=27)	chi-square statistic (df)	p-value
Gender			0.01 (1)	n.s.
Male	27 (48%)	13 (48%)		
Age ^a			18.97 (2)	<0.001
<40 yrs	23 (43%)	23 (96%)		
40-49 yrs	19 (36%)	1 (4%)		
>=50 yrs	11 (21%)	0		
Work schedule ^b				n.s. ^c
Full-time	53 (98%)	24 (96%)		
Part-time	1 (2%)	1 (4%)		
Practice structure ^d			4.98 (3)	n.s.
Solo practice	19 (37%)	10 (44%)		
Single specialty	9 (18%)	4 (17%)		
Multiple specialty	22 (43%)	6 (26%)		
Other	1 (2%)	3 (13%)		
Health centre location			0.61 (1)	n.s.
Near university hospital ^e	40 (71%)	17 (63%)		
distant from University hospital	16 (29%)	10 (37%)		
Average years in clinical practice (min, max)	9 (1, 28)	1 (0, 7)		<0.001 ^f

^a 6 subjects (7%, 3 physicians & 3 trainees) did not state their age; ^b 2 subjects did not provide a response; ^c Fisher's exact test; ^d 9 subjects (11%) did not respond: 5 physicians & 4 trainees; ^e Within 100 km; ^f Mann-Whitney test; n.s.=non significant.

Figure1. Variations in responses to selected knowledge based items on breast cancer screening, Primary Care Physicians in rural Crete.



4.5

5:

:

.

”

”

”

.

ó

«

»

:

:
 :
 .
 : 1, 2, 3, 4

1. ,
2. , / ,
3. , / -
4. ,

☒ Corresponding author:

FAX NUMBER: 2810392220

: 6970889091
 2810392220
 2810210662

Email addresses: Martrig1@yahoo.com

:

.

,

.

.

,

()

,

.

:

8

2005 28

2005.

30

(45-65)

,

,

,

.

.

:

,

:

,

,

(),

Views and attitudes of women and physicians in an urban area of Crete concerning mammography screening: Results of a study with qualitative research methods.

Abstract

Introduction: As breast cancer is considered the most common cause of death for women worldwide, the importance of prevention is decisive. Although the use of mammography seems to be effective in mortality reduction and there is extensive evidence on the importance of pre-symptomatic screening programmes, Greece lacks a national breast cancer screening programme in women. Furthermore, there is no

data available in regards to women who undergo periodic mammography screening. This study refers to the attitudes of middle-aged women from an urban area of Crete concerning their use of mammography, the views of physicians from a university hospital, as well as the factors that affected their views.

Method: The study was carried out at University Hospital of Heraklion, from April 8 to June 28, 2005. Interviews were conducted with thirty women 45 - 65 years of age, permanent residents of Heraklion, who were recruited from the list of regular appointments at hospital clinics. Interviews were also conducted with sixteen randomly selected doctors from the respective clinics of University Hospital. Interview content analysis was applied, as recommended by literature.

Results: Despite the fact that the majority of women had used mammography at least once, either for prevention or diagnosis, the factors affecting their attitude were as follows: knowledge about the positive aspects of mammography, the encouragement of others, good physical condition (lack of symptoms), lack of information and programs, fear of diagnosis, not considering it a priority, family obligations, and accessibility. In regards to physicians, all were well informed about mammography and considered it a very important exam. Factors affecting mammography use according to physicians were: lack of concern by women in the absence of symptoms, access to a mammography screening center, difficulties in scheduling an appointment in public hospitals, waiting time, radiation, pain, the traumatic experience of the exam, fear of diagnosis, lack of information, cost, family obligations and distance from the hospital. Physicians also mentioned the effect of socio-economic factors on women's knowledge, attitudes, and practices.

Conclusion: Women and physicians from urban Crete identified the same factors affecting the use of mammography. Although mammography appeared to be frequently used by women, it was not used systematically due to fear of diagnosis, lack of concern in the absence of symptoms, lack of information, and fear of pain.

Words: Breast cancer, mammography screening, attitudes, views, Greece

5-9

,

,

,

,

,

(8% 19% 5

) 10

69,

,

:

,

11

12

13

13

US,

14

US

15

14,16,17,18

19,20,21

11

22

1980

2003

3481

74%

(=790)

(,)

22

utilization²³

multivariate model of transcultural health care

8 2005 28 2005.

: 45- 65 ,

: (7) ,

(8) ,

(7) ,

(8)

.

:

,

ó

16 ,

,

(50%).

30 -35 .

:

,

.

Warwick

24,25 ,

.

.

,

,

.

.

,

,

∅

MT

26

26,27

30

45-55

300

1.

12

4

4

, 4

, 4

4

5

(2).

30 29

:

, (22).

(15).

:

, í . , í

, (9).

30

28

28, 6

, 9

, 7

(56 65

), , :
(200-300)

,

(3).

.

.

,

.

.

÷

.

,

(28).

.

.

,

.

;

i

.

(19)

.

. « , í » .

ó

. 28 11

, . 17

(8

,7 ,1 ,1).

. :

í í í í « » (1)

« »

. . , . . :

.

.(26)

í .

, í í

í (1)

-

, , .

. .

, ,

:

. .

i ..

, .

.

(4)

, :

:

• (7), (2),

(5).

• - ,

(5)

17

(15)

.(5)

í í .(28)

.(17)

(24)

(1)

(30).

16

()

,

.

.

(1)

,

.

,

.

, \emptyset (5)

,

.

,

(8).

.

,

÷

,

,

.

.

(16)

(=5), ,

(=4),

8)

\emptyset (

, $\acute{t} \acute{t}$

(12)

(16)

(2).

\emptyset

\cdot
 \div
 \cdot , \cdot
 (8.)
 $:$ (=2),
 (=1), (=1).
 \cdot ,
 , , ..
 ,
 \cdot
 (9).
 ,
 \cdot
 , , (3).
 ,
 , ,

,

,

,

,

28,29

,

,

28

,

,

,

,

,

,

28

.

28

.

14,16,17,18

11,19,20,21

20,21,28

30

28

28

« »,

,

,

,

17

28,30

Ø

∅

∅

31

31

ó

screening,

Frances Griffiths,

Warwick, UK, Eileen Green,

Teesside, UK,

Ø

REFERENCES

1. Parkin DM, Pisani P, Ferlay J: Estimates of the worldwide incidence of 25 major cancers in 1990. *Int J Cancer* 1999, 80:827-841.
2. Cortesi L., Chiuri VE., Ruscelli S., Bellelli V., Negri R., Rashid I., Cirilli C., Fracca A., Gallo E., Federico M.: Prognosis of screen-detected breast cancers: results of a population based study. *BMC Cancer* 2006, 6:17.
3. Keller B., Zemp Stutz E., Tibblin M., Ackermann- Liebrich U., Faisst K., Prbst ó Hensch N: Screening mammography in Switzerland: what makes female and male physicians prescribe them. *Swizz Med Wkly* 2001,131:311-319.
4. Santora L., Mahoney C. M., Lawvere S., Englert J., Symons B. A., Mirand L. A.: Breast cancer screening beliefs by practice location. *BMC Public Health*, 2003, 3:9
5. Duffy SW et al.: The impact of organized mammography service screening on breast carcinoma mortality in seven Swedish counties. *Cancer* 2002, 95:458- 69.
6. Van den Akker-van Marle E, de Koning H, Boer R, van der Maas P.:Reduction in breast cancer mortality due to the introduction of mass screening in The Netherlands: comparison with the United Kingdom. *J Med Screen.* 1999;6:30-4.
7. Beckett J R, Kotre C J, Michaelson J S: Analysis of benefit:risk ratio and mortality reduction for the UK Breast Screening Programme. *British Journal of Radiology* 2003, 76: 309-320.
8. Day N, Warren R., Mammographic screening and mammographic patterns, *Breast Cancer Res.* 2000;2:247-51.
9. Blanks R G, Moss S M, McGahan C E, Quinn M J, Babb P J: Effect of NHS breast screening programme on mortality from breast cancer in England and Wales, 1990-8: comparison of observed with predicted mortality, *BMJ.* 2000, 321: 665ó669.

10. Levi F., Bosetti C., Luechini F., Negri E., La Vecchia C.: Monitoring the decrease in breast cancer mortality in Europe. *Eur. J. Cancer Prev.* 2005;14:497-502.
11. Colleen J. Maxwell, C. M. Bance, J. Snider, 2001, Predictors of mammography use among Canadian women aged 50-69: findings from the 1996/97 National Population Health Survey. *CMAJ.* 2001 February 6; 164(3) :329-334.
12. Duport N., Ancelle-Park R.: Do socio-demographic factors influence mammography use of French women? Analysis of a French cross-sectional survey. *Eur. J Cancer Prev.* 2006;15:219-24.
13. Alcaraz M., Liuch A., Miranda J., Salas MD.: Study of non participation in the breast cancer screening program in the city of Valencia (Spain). *Gac Sanit.* 2002;16:230-5.
14. Yabroff K. Robin, Mandelblatt S. Jeanne: Interventions targeted toward patients to increase mammography use. *Cancer Epidemiology Biomarkers & Prevention* 1999, 8: 749-757.
15. Flynn BS, Gavin P, Worden JK, Ashikaga T, Gautam S, Carpenter J. Community education programs to promote mammography participation in rural New York State. *Prev Med.* 1997;26:102-8.
16. Ogedegbe G., Cassells AN., Robinson CM., DuHamel K., Tobin JN., Sox CH., Dietrich AJ.: Perceptions of barriers and facilitators of cancer early detection among low-income minority women in community health centers. *J Natl. Med. Assoc.* 2005;97:162-70.
17. Young F. R., Severson K. R.: Breast Cancer screening barriers and mammography completion in order minority women. *Breast Cancer Research and Treatment* 2005; 89:111-118.

18. Oliver-Vázquez Marlén, Melba Sánchez-Ayéndez, Erick Suárez-Pérez, Himilce Vélez-Almodóvar and Yamilet Arroyo-Calderón: Breast cancer health promotion model for older Puerto Rican women: results of a pilot programme. *Health Promotion International* 2002;17:3-11.
19. Coughlin S.S., Thompson T. D., Hall H. I., Logan P., Uhler R: Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998-1999. *Cancer* 2002, 94:2801-12.
20. Engelman KK., Ellerbeck EF., Perpich D., Nazir N, McCarter K, Ahluwalia JS: Office systems and their influence on mammography use in rural and urban primary care. *J Rural Health* 2004, 20:36-42.
21. Engelman KK., Hawley DB., Gazaway R., Mosier MC., Ahluwalia JS., Ellerbeck EE: Impact of geographic barriers on the utilization of mammograms by older rural women. *Journal American Geriatrics Society* 2002, 50:62-68
22. Keramopoulos A. et al.
 - Diagnostic approach to women with breast cancer in Greece, *Archives of Hellenic Medicine* 2005, 22(1):66-72.
23. Slikkerveer L J: *Plural Medical Systems in the Horn of Africa*. London and New York: KPI; 1990:70-71.
24. Griffiths, F. E., Green E. E., et al. . *Innovative Health Technologies at Women's Midlife; Theory and Diversity among women and Experts* 2003; (L218252038), ESRC.
25. <http://www.york.ac.uk/res/ihp/projects/I218252038.htm>.
26. Patton M. *Qualitative research and evaluation methods*, London, Sage publications, 2002.
27. Silverman D. *Interpreting qualitative data*. London: Sage, 1993.

28. Trigoni, M., Griffiths F., Tsiftsis D., Koumantakis E., Green E., Lionis C. Mammography screening: views from women and primary care physicians in Crete, *BMC Women and Health*, 2008 (submitted).
29. Yabroff K. Robin, Mandelblatt S. Jeanne: Interventions targeted toward patients to increase mammography use. *Cancer Epidemiology Biomarkers & Prevention* 1999, 8: 749-757.
30. Hackshaw A.: EUSOMA review of mammography screening. *Annals of Oncology* 2003;14:1193-1195.
31. Maxwell CJ, Bancej CM, Snider J.: Predictors of mammography use among Canadian women aged 50-69: findings from the 1996/97 National Population Health Survey. *CMAJ*. 2001;164:329-34.

1.

45-50	11	11	
51-55	6	6	
56-60	9	8	1
61-65	4	3	1
	18	16	2
	5	5	
	5	5	
-	2	2	
	4	4	
	3	3	
	4	4	
	2	1	1
	17	16	1

0-100	1	1	
100-200	5	5	
200-300	6	4	2
300-400	7	7	
400-500	3	3	
500-700	3	3	
700	3	3	

2:

	2
<i>36-40</i>	2
<i>41-45</i>	9
<i>46-50</i>	4
<i>51-55</i>	1
	12
	4
	4
	4
/	4
	4
	3
<i>6-10</i>	5
<i>11-15</i>	4
<i>16-20</i>	2
<i>21-25</i>	2
<i>26-30</i>	2
	4
<i>0-5</i>	9
<i>6-10</i>	2
<i>11-15</i>	1
<i>16-20</i>	1

5.

5.1

5.1.1

, ,
:

1

45,57,71

, ,
), (, ,
, (,),
, (, ,
, ,
,)).

44,33

34,35,36,39,41,58,93

36

35,39,93

94,95

,

,

,

...

41

96

,

,

.

)

(

74,75

5.1.2

#2

«

»

(test ó re-test),

5.1.3

...

#4

∅

41,34,97

#1.

65

5.1.4

« »,

#1

74,75,76

73,74,75,76

55 ,

72,77,98

72,98

#1

35

36,39

(#1)

« »

5.2

.

.

,

.

,

.

89,90

« »

,

,

.

5.3

1.

•

2.

•

•

•

•

3.

•

•

•

•

5.4

1. . , :
2. ;
3. ; (,
4. ,) - ;
5. ;
6. ;

6.

6.1

:

•

•

,

:

,

,

•

,

,

•

,

,

•

,

.

,

,

•

,

•

,

ó

•

.

•

.

•

,

.

•

.

•

.

•

.

.

•

•

•

•

«

»

6.2

,

,

,

.

,

,

.

.

.

,

.

.

.

,

.

∅

7.

1. Malliou S, Ajnantis N, Pavlidis N, Kappas A, Kriaras J, Geroulanos S. History of mastectomy, *Archives of Hellenic Medicine* 2006, 23:260-278.
2. Karpozilos A, Pavlidis N. The treatment of cancer in Greek antiquity. *Eur. J. Cancer* 2004, 40:2033-2040.
3. . , 1993.
4. . , 1997:387, 477.
5. . , 1998.
6. Parkin DM, Pisani P, Ferlay J. Estimates of the worldwide incidence of 25 major cancers in 1990. *Int J Cancer* 1999, 80:827-841.
7. Parkin DM, Bray FI, Devesa SS. Cancer burden in the year 2000. The global picture. *Eur J Cancer* 2001, 37:S4-S66.
8. Cortesi L, Chiuri VE, Ruscelli S, Bellelli V, Negri R, Rashid I, Cirilli C, Fracca A, Gallo E, Federico M. Prognosis of screen-detected breast cancers: results of a population based study. *BMC Cancer* 2006, 6:17.
9. Keller B, Zemp Stutz E, Tibblin M, Ackermann- Liebrich U, Faisst K, Prbst ó Hensch N. Screening mammography in Switzerland: what makes female and male physicians prescribe them. *Swizz Med Wkly* 2001, 131:311-319.
10. Santora L, Mahoney C M, Lawvere S, Englert J, Symons B A., Mirand L A. Breast cancer screening beliefs by practice location. *BMC Public Health* 2003, 3:9.
11. Dundar PE, Omen D, Ozturk B, Haspolat G, Akyildiz F, Coban S, Cakiroglu G. The knowledge and attitudes of breast self-examination and mammography in a group of women in a rural area in western Turkey. *BMC Cancer* 2006, 6:43.
12. <http://www.who.int/whosis/whostat/en/> World Health Statistics 2008, World Health Organization.
13. <http://www.mastologia.gr>, . , . Mastologia, #6, - - 2006 page 2.
14. Ferlay J, Autier P, Boniol M, Heanue M, Colombet M, Boyle P. Estimates of the cancer incidence and mortality in Europe in 2006. *Annals of Oncology* 2007, 18:581-592.
15. <http://www.cancer.gov/cancertopics/types/breast>
16. <http://www.cancer.org>. American cancer society, Cancer Facts and figures 2008.

17. Patient Health International. Treatment options and issues for younger women with early breast cancer. Feature; October 2005. Available at: <http://www.patienthealthinternational.com/features/8836.aspx>
18. World Health Organization. Atlas of Health in Europe. 2003. World Health Organization, Regional Office of Europe, Copenhagen, Denmark.
19. Boyle P, Ferlay J. Cancer incidence and mortality in Europe. *Annals of Oncology*. 2005, 16:481-488.
20. Tyczynski JE, Bray F, Maxwell Parkin D. European Network of Cancer Registries (ENCR). International Agency for Research on Cancer. Breast Cancer in Europe. ENCR Cancer Fact Sheets, Volume 2, December 2002
21. <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A5-2003-0159+0+DOC+XML+V0//EL>
22. www.statistics.gr
23. <http://www.mastologia.gr>, .Mastologia, #8, 2007 page 1.
24. <http://www.bestrong.org.gr/el/learncancer/statisticscancer/greece/>
25. Vlachonikolis IG, Aletra TJ, Georgoulas V. Incidence of breast cancer on Crete, 1994-1995. *Eur J Cancer* 2002, 38:574-7.
26. Duffy SW, Tabár L, Chen HH, Holmqvist M, Yen MF, Abdsalah S, Epstein B, Frodis E, Ljungberg E, Hedborg-Melander C, Sundbom A, Tholin M, Wiege M, Akerlund A, Wu HM, Tung TS, Chiu YH, Chiu CP, Huang CC, Smith RA, Rosén M, Stenbeck M, Holmberg L. The impact of organized mammography service screening on breast carcinoma mortality in seven Swedish countries. *Cancer* 2002, 95:458-69.
27. Beckett J R, Kotre C J, Michaelson J S. Analysis of benefit:risk ratio and mortality reduction for the UK Breast Screening Programme. *British Journal of Radiology* 2003, 76: 309-320.
28. Blanks R G, Moss S M, McGahan C E, Quinn M J, Babb P J. Effect of NHS breast screening programme on mortality from breast cancer in England and Wales, 1990-8: comparison of observed with predicted mortality. *BMJ*. 2000, 321: 665-669.
29. Greenwald P. A favorable view: progress in cancer prevention and screening. *Recent Results Cancer Res*. 2007, 174: 3-17.
30. Akker-van Marle E. Van den, de Koning H, Boer R, van der Maas P. Reduction in breast cancer mortality due to the introduction of mass screening in The Netherlands: comparison with the United Kingdom. *J Med Screen*. 1999, 6:30-4.
31. Day N, Warren R. Mammographic screening and mammographic patterns. *Breast Cancer Res*. 2000, 2:247-51.

32. Hackshaw A. EUSOMA review of mammography screening. *Annals of Oncology* 2003, 14:1193-1195.
33. Avci IA, Kurt H. Health beliefs and mammography rates of Turkish women living in rural areas. *J Nurs Scholarsh.* 2008, 40:170-5.
34. Ganry O, Boche T. Prevention practices and cancer screening among general practitioners in Picardy, France. *Public Health* 2005, 119:1023-30.
35. Halabi S, Skinner CS, Samsa GP, Strigo TS, Crawford YS, Rimer BK. Factors associated with repeat mammography screening. *J Fam Pract* 2000, 49:1104-12.
36. Bazargan M, Bazargan SH, Calderon JL, Husaini BA, Baker RS. Mammography screening and breast self-examination among minority women in public housing projects: the impact of physician recommendation. *Cell Mol Biol (Noisy-le-grand)* 2003, 49:1213-8.
37. Bekker H, Morrison L, Marteau TM. Breast screening: GPs' beliefs, attitudes and practices. *Family Practice* 1999, 16:60-65.
38. Constanza ME, Stoddard AM, Zapka JG, Gaw VP, Barth R. Physician compliance with mammography guidelines: barriers and enhancers. *J Am Board Fam Pract.* 1992, 5:143-52.
39. Tolma EL, Reininger BM, Ureda J. What predicts a Cypriot woman's decision to obtain or not obtain a screening mammogram? Implications for the promotion of screening mammography in Cyprus. *Eur. J Cancer Prev.* 2006, 15:149-57.
40. Trigoni M, Griffiths F, Tsiftsis D, Koumantakis E, Green E, Lionis C. Mammography screening: views from women and primary care physicians in Crete. *BMC Womens Health* 2008, 7:8:20.
41. Brotons C, Bjorkelund C, Bulc M, Clurana R, Godycki ó Cwirko M, Jurgova E, Kloppe P, Lionis C, Mierzecki A, Pineiro R, Pullerits L, Sammut M, Sheehan M, Tataradze R, Thireos E, Vuchak J. Prevention and health promotion in clinical practice: the views of general practitioners in Europe. *Preventive Medicine* 2005, 40:595-601.
42. Levi F., Bosetti C., Lucchini F., Negri E., Vecchia C., Monitoring the decrease in breast cancer mortality in Europe. *Eur. J Cancer Prev.* 2005, 14:497-502.
43. www.cancer.org/guide/guidchec.html
44. Duport N, Ancelle-Park R. Do socio-demographic factors influence mammography use of French women? Analysis of a French cross-sectional survey. *Eur. J Cancer Prev.* 2006, 15:219-24.

45. Alcaraz M, Liuch A, Miranda J, Salas MD. Study if non participation in the breast cancer screening program in the city of Valencia (Spain). *Gac Sanit.* 2002, 16:230-5.
46. Shapiro S, Coleman EA, Broeders M, Codd M, de Koning H, Fracheboud J. *et al.* Breast cancer screening programmes in 22 countries: current policies, administration and guidelines. International Breast Cancer Screening Network (IBSN) and the European Network of Pilot Projects for Breast Cancer Screening. *Int J Epidemiol* 1998, 27:735-42.
47. Domenighetti G, D'Avanzo B, Egger M, Berrino F, Perneger T, Mosconi P, Zwahlen M. Women's perception of the benefits of mammography screening: population-based survey in four countries. *Int J Epidemiol.* 2003, 32:816-21.
48. Mousiama T, Loakimidou S, Largatzi E, Kaitelidou D, Liaropoulus L. Health technology assessment in the area of prevention: selected screening cases in Greece. *Int J Technol Assess Health Care* 2001, 17:338-57.
49. Garas I, Pateras H, Tiandafilou D, Georgountzos V, Mihas, Abatzoglou M, Trichopoulos D. Breast cancer screening in Southern Greece. *European Journal of cancer prevention* 2004, 3:35-39.
50. Lionis C, Samoutis G, Kouroussis C, Trigoni M, Georgoulas V. Teaching cancer management to primary care health staff: the first experience gained from Crete. *J Cancer Educ.* 2005, 20:6-7.
51. Keramopoulos A. *et al.*
- Diagnostic approach to women with breast cancer in Greece, *Archives of Hellenic Medicine* 2005, 22:66-72).
52. www.mastologia.gr
53. Gøtzsche PC, Nielsen M. Screening for breast cancer with mammography. *Cochrane Database Syst Rev.* 2006 Oct 18;(4):CD001877.
54. Elmore J, Armstrong K, Lehman C, Fletcher S. Screening for Breast Cancer Cl., *JAMA.* 2005, 293(10):1245-56.
55. Moss SM, Cuckle H, Evans A, Johns L, Waller M, Bobrow L; Trial Management Group, Effect of mammographic screening from age 40 years on breast cancer mortality at 10 years follow up: a randomized controlled trial, *Lancet* 2006, 368(9552):2053-60.
56. Armstrong K, Moye E, Williams S, Berlin JA, Reynolds EE. Screening mammography in women 40 to 49 years of age: a systematic review for the American College of Physicians. *Ann Intern Med.* 2007, 146:516-26.
57. Ogedegbe G, Cassells AN, Robinson CM, DuHamel K, Tobin JN, Sox CH, Dietrich AJ. Perceptions of barriers and facilitators of cancer early detection among

low-income minority women in community health centers. *J Natl. Med. Assoc.* 2005, 97:162-70.

58. Beaulieu MD, Beland F, Roy D, Falardeau M, Hebert G. Factors determining compliance with screening mammography. *CMAJ.* 1996, 154:1335-43.

59. Metch, L.R, McCoy, Clyde B, McCoy, H. Virginia, Pereyra, Margaret, Trapido, Edward & Miles, Christine. The role of Physician as an Information Source on Mammography. *Cancer Practice* 1998, 6:229-236.

60. Keller B, Zemp Stutz E, Tibblin M, Ackermann-Liebrich U, Faisst K, Probst-Hensch N. Screening mammographies in Switzerland: what makes female and male physicians prescribe them? *Swiss Med Wkly* 2001, 131:311-319.

61. Mandelblatt J.S, Robin K. Yabroff. Effectiveness of Interventions Designed to Increase Mammography Use: A Meta Analysis of Provider-targeted Strategies. *Cancer Epidemiology Biomarkers & Prevention* 1999, 8:759-767.

62. MacDowell NM, Nitz Weiss M, Short A. The role of physician communication in improving compliance with mammography screening among women ages 50-79 in a commercial HMO. *Manag. Care Q* 2000, 8:11-19.

63. Silverman E, Woloshin S, Schwartz LM, Byram SJ, Welch HG, Fischhoff B. Women's views on breast cancer risk and screening mammography: a qualitative interview study. *Med Decis Making* 2001, 21:231-240.

64. David H, Thom MD. Training physicians to increase patient trust. *Journal of Evaluation in Clinical Practice* 2000, 3:245.

65. Costanza M, Zapka J, Harris R, Hosmer D, Barth R, Gaw V, Greene H, Stoddard A. Impact of a physician intervention program to increase breast cancer screening. *Cancer Epidemiology Biomarkers & Prevention* 1992, 1:581-589.

66. Edwards A. Communication about risk -dilemmas for general practitioners. *British Journal of General Practice* 1997, 47:739-742.

67. Goyder E. Telling people about screening programmes and screening test results :how can we do it better. *Journal of Medical Screening* 2000, 7:123-126.

68. Donato F, Bollani A, Spiazzi R, Soldo M, Pasquale L, Monarca S, Lucini L, Nardi G. Factors associated with non-participation of women in a breast screening programme in a town in northern Italy, *J Epidemiol Community Health* 1991, 45:59-64.

69. Luengo-Matos S, Polo-Santos M, Parkinson Z. Mammography use and factors associated with its use after the introduction of breast cancer screening programmes in Spain. *Eur J Cancer Prev.* 2006, 15:242-8.

70. Munn EM. Nonparticipation in mammography screening: apathy, anxiety or cost? *N Z Med J* 1993, 14:284-286.

71. Robin K. Yabroff, Mandelblatt J.S. Interventions Targeted toward Patients to Increase Mammography Use. *Cancer Epidemiology Biomarkers & Prevention* 1999, 8:749-757.
72. Young F. R, Severson K. R. Breast Cancer screening barriers and mammography completion in order minority women. *Breast Cancer Research and Treatment* 2005, 89:111-118.
73. Flynn BS, Gavin P, Worden JK, Ashikaga T, Gautam S, Carpenter J. Community education programs to promote mammography participation in rural New York State. *Prev Med.* 1997, 26:102-8.
74. Engelman KK, Hawley DB, Gazaway R, Mosier MC, Ahluwalia JS, Ellerbeck EE. Impact of geographic barriers on the utilization of mammograms by older rural women. *Journal American Geriatrics Society* 2002, 50:62-68.
75. Engelman KK, Ellerbeck EF, Perpich D, Nazir N, McCarter K, Ahluwalia JS. Office systems and their influence on mammography use in rural and urban primary care. *J Rural Health* 2004, 20:36-42.
76. Coughlin S.S, Thompson T. D, Hall H. I, Logan P, Uhler R. Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998-1999. *Cancer* 2002, 94:2801-12.
77. Oliver-Vázquez Marlén, Melba Sánchez-Ayénde, Erick Suárez-Pérez, Himilce Vélez-Almodóvar and Yamilet Arroyo-Calderón. Breast cancer health promotion model for older Puerto Rican women: results of a pilot programme. *Health Promotion International* 2002, 17:3-11.
78. Coolleen J. Maxwell. Predictors of mammography use among Canadian women aged 50-69 :findings from the 1996/97 National Population Health Survey. *CMAJ.* 2001, 164:329-334.
79. Pearlman D.N, Rakowski W, Clark MA, Ehrich B, Rimer BK, Goldstein MG, Woolverton H. Why do women's attitudes toward mammography change over time? Implications for physician & patient communication. *Cancer Epidemiology Biomarkers & Prevention* 1997, 6:451-457.
80. Smith RA, Saslow D, Sawyer KA, Costanza ME, Evans WP, Foster RS, Hendrick E, Eyre HJ, Sener S. American Cancer Society Guidelines for Breast Cancer Screening: Update 2003. *CA Cancer J Clin.* 2003, 53:141-169.
81. American Cancer Society. *Cancer Facts & Figures 2005.* Atlanta, GA: American Cancer Society; 2005.
82. Smith R, Cokkinides V, Eyre H. Cancer Screening in the United States, 2007 A Review of Current Guidelines, Practices, and Prospects *CA Cancer J Clin.* 2007, 57: 90-104.

83. Atman DG. Sample size, In th book: Practical statistics for medical Research. Chapman & Hall, London 1997, page ;248.
84. Lwanga SK, Lemeshow S. Two ó Sample situations In the book: Organization, Geneva 1991, pages:6-8.
85. <http://www.york.ac.uk/res/iht/projects/I218252038.htm>.
86. Griffiths F E, Green E E, Bendelow G, Blackett-Milburn K, Thompson D, Tsouroufli M. Innovative Health Technologies at Women's Midlife; Theory and Diversity among women and Experts 2003, (L218252038), ESRC.
87. Medical Outcomes Trust. Trust introduces new translation criteria. Medical Outcomes Trust Bulletin. 1997, 5: 164.
88. Pope C, Mays N. Qualitative research in health care. British Medical Journal Books; 2000.
89. Patton M. Qualitative research and evaluation methods. London, Sage publications; 2002.
90. Silverman D. Interpreting qualitative data. London: Sage; 1993.
91. Green, J. and Thorogood N. Qualitative Methods for Health Research. London, Sage; 2004.
92. Landis J. R, Koch G.G. The Measurement of Observer Agreement for Categorical Data. Biometrics. 1977, 33: 159-174.
93. Lagerlund M, Anna Hedin A, Sparén P, Erik Thurfjell E, Mats Lambe L. Attitudes, Beliefs, and Knowledge as Predictors of Nonattendance in a Swedish Population-Based Mammography Screening Program. Prev Med. 2000, 31:417-28.
94. Lurie N, Slater J, McGovern P, Ekstrum J, Quam L, Margolis K. Preventive care for women. Does the sex of physician matter? N Engl J Med 1993, 329:47882.
95. Franks P, Clancy CM. Physicians gender bias in clinical decision-making: screening for cancer in primary care. Med Care 1993, 31:2138.
96. Herman CJ, Lengerich EJ, Stoodt G. Variation in recommendations for breast and cervical cancer screening among primary care physicians in North Carolina 1991, South Med J. 1996, 89:583-90.
97. Kloppe P, Brotons C, Anton JJ, Ciurana R, Iglesias M, Pineiro R, Fornasini M. Preventive care and health promotion in primary care: comparison between the views of Spanish and European doctors. Aten Primaria 2005, 36:144-51.
98. Mandelblatt J S, Yabroff KR. Breast and cervical cancer screening for older women: recommendations and challenges for the 21st century. J Am Med Womenø Assoc. 2000, 55:210-5.

1. Health Professionals Interview Schedule

1. What would you say are the main health priorities or concerns facing women in midlife?
2. Can you tell me what sort of questions women raise with you in relation to menopause, and has this changed over your working life?
3. Do women mention other people who they have turned to for information about midlife health and wellbeing and if so who? (probe for other health professionals, friends, relatives etc)
4. Can you tell me about your views on women's health in midlife? For example do you see this as a marked time of 'change' or simply a transition?
5. How knowledgeable and up-to-date do you feel about the mammography our study is interested in (screening for breast cancer).
6. Is training on existing and developing mammography for women at midlife available to you?
 - i. If so, can you tell me what types?
 - ii. Do you take advantage of this?
 - iii. How do you assess their worth
7. Do you use the Internet at all? Do you use it to update your professional knowledge? What about on the subject this study is interested in?
8. Can you tell me how you view this health technology both at a professional level and at a personal level if this applies to you and/or your partner?
9. How knowledgeable are your patients about mammography we are focusing on in this project that is on offer? Are they more familiar with some than other ?
10. What do you think are women's main priorities in regard to decisions about mammography?
11. How do you approach the issue of informing women about the potential risks and benefits of mammography?
 - i. Do you think this is important?
 - ii. How do women react?
 - iii. What issues do women bring up in relation to risk and benefit?
 - iv. What appears important to women?

- v. Is this different from what seems important to you as one of their health professionals?
12. Do most women find the decision to use particular mammography a difficult one? How do you help them with this?
13. How usual is it for you to recommend mammography for women, for example do you wait for women to ask or are you more likely to suggest the mammography directly?
- i. If it varies, what type of issue makes you decide to mention it to one woman and not another?
14. Do you consider that midlife women have become the focus of too much medical intervention?
15. Do you have any concerns about addressing the question of the mammography with women?
16. Is the way you approach that discussion affected by women's individual circumstances?
17. How do you manage the situations where women may disagree with the advice offered?
18. What reasons have your women patients given if they choose not to use the mammography screening?
- 19.. Do you raise, or do any of your women patients discuss using self-care strategies and or alternative therapies instead of, or alongside, health technologies? Can you tell me what types?
- 20.Can you tell me how you view such strategies and therapies, and what your professional experiences and knowledge are of them?
- i. Can you think about this question in relation to your personal experiences and knowledge?
- 21.Do you understand these alternative forms of health care as 'technologies'?
22. .Do you think differences such as culture, age, ethnicity, disability and socio-economic status have an impact on women's knowledge of or attitude towards mammography?
23. Do you think these differences impact on health professionals' relationships with women patients?

24. How comfortable and confident do you feel most women are about voicing their own opinions with you as a health professional?

25. May I ask your age?

26. May I ask if you take advantage of any of mammography? (ask which ones if information not volunteered).

27. How would you describe your ethnicity?

28. Can you tell me your job title and give me a brief description of what that entails?

29. How many years have you been working as a health professional?

30. How many years have you been working in your current post?

31. Do you undertake any professional work in addition to being the practice nurse/GP here seeing patients, eg teaching, research, management, audit, other clinics etc either within or outside the practice?

2. Midlife Women Interview Schedule

In this study we are interested in women's stories about their middle years. We want to learn how women feel about themselves, their lives, their sense of health and wellbeing and their approach to medical issues and therapies.

- 1). Can we start, therefore, by your telling me something about yourself and your background, for example your age and whether you live with and share your home with other people?
- 2). Can you tell me what's happening in your life generally at the moment, for example within your relationships, home, work, leisure time, friendship links.
- 3). How would you describe your own health at the moment?
 - i) How do you feel at the present time in relation to your body?
- 4). Have you any concerns for your future health?
 - i) What do you think will happen to your body in future years?
 - ii) How do you feel about ageing?
- 5). What would you say are the main health priorities or concerns facing women in midlife?
- 6). Can you tell me what you know about mammography?
- 7) Can you tell me how you found out about mammography?
- 8) Did you use the Internet at all?
- 9). Have you any thoughts on the 'safety' or 'risks' of any of mammography?
 - i) What is your understanding of your results ?
- 10). You may know women who have had mammography. What impact has their experience had on you?
 - i) Do you think you have influenced other women that you know, such as friends or family members in regard to mammography?
- 11). Do you consider that midlife women have become the focus of too much medical intervention?
- 12). Do you, or have you, used any alternative forms of health care?
(Alternative therapies such as aromatherapy, massage, supplements and lifestyle options such as diet, exercise)

- i. Have you used them recently?
- ii) Have you used them for the health problem that you are here with today?

iii). Again, as with the question we discussed earlier, do you think your attitude towards alternative forms of health care has influenced other women you know, such as friends or family members?

iv) Can you tell me how you found out about these alternative forms of health care, and did you use the Internet?

13). Can you tell me about your feelings and experiences of talking to health professionals about your health needs recently. It may help to start with the first health professional you spoke to.

i). Have you found it easy or difficult to talk to any health professionals?

ii) Have you had to develop ways in which to approach sensitive subjects, such as breast problems, with health professionals?

iii) Have you felt listened to and your views respected, or felt your views dismissed?

iv) Have the health professionals given information/advice on alternative forms of health care?

v) Did you feel you received enough information to make a proper 'choice' about your health needs?

vi) Is the sex of the health professional important to you, whether they are male or female?

Cultural differences: May need to probe for:

Use of an interpreter: is this always offered? Or, does the woman have to (or prefer) to use a family or kin member?

Importance of female doctors - particularly for Muslim women

Whether given advice about where to find written information in appropriate language.

Physical Disability:

Who does the health professional talk to, if accompanied by a carer, the carer or the patient?

14). Sometimes choices about health care and treatments have pros and cons, and are not straightforward. Can you tell me how health professionals raised the question of 'safety' and 'risks' in relation to health care, such as mammography, with you?

15). Thinking about your relationship with health professionals, can you describe how you think your health care decisions have been taken, for example who takes the decisions/how are decisions arrived at?

i) Did you find health professionals enable you to take the decision or that their judgements take precedence over your choice?

ii) Did you feel you came to a shared decision with the health professional?

iii) Did you feel happy for the health professional to take the decision, as the 'expert'?

iv) Have you ever received conflicting advice from health professionals on the test mammography we have discussed in the interview and how do you feel about this?

16) I have now reached the end of my questions, do you have any questions for me?

I will be listening again to what you have told me and the research team will read a transcript of this interview. Sometimes we find that further questions occur to us that we would like to ask you. Would you be agreeable to me contacting you again? (to ask questions by telephone and/or for a further face to face interview).

In order to gain a clear picture of women's differences and diversities we would be grateful if you could answer the following general questions.

How old are you?.....

Do you live alone or do you share your home with other people?

Alone Other people

If other people, can you please say who.....

Do you have any children or grandchildren? Yes No

Children Ages?.....Grandchildren Ages?.....

Which of these groups do you consider yourself to belong to?

White-British White-Irish White-Other

Indian Pakistani Bangladeshi

Black African Black Caribbean Black Other

Chinese Other

Do you consider yourself to be:

Heterosexual Lesbian Bi-Sexual

Do you have any problems with mobility? Yes No

If so, can you please tell us more about this.....

Do you consider yourself disabled? Yes No

Please briefly describe your disability.....

Do you require the assistance of a wheelchair? Yes No

Do you have any long-term health conditions? Yes No

If so, can you please tell us about these.....

Do you have a regular exercise/sport programme? Yes No

If so, can you please tell us what you do.....

What is the occupation of the main wage earner in the household, if any, and can you tell us who this is?.....

Can you please tell us which **weekly** income band your household falls within:

Under £100 per week £100 and less than £200

£200 and less than £300 £300 and less than £400

£400 and less than £500 £500 and less than £700

£700 and above

What is the first part of your postcode?.....

How old you were when you completed your formal education?.....

What is your highest educational qualification?.....

Can you please give us the following information in relation to yourself:

Whether you have a paid job Yes No

If so, can you give us the title of your job í í í í í í í í í í í í í í í í

Can you describe very briefly what you do in your job í í í í í í í í í í í ...

í ..

Whether you undertake any other kinds of work? Yes No
 (For example caring for a family member, such as a disabled or frail elderly parent/
 child/grandchild, or whether you work as a volunteer with any organisation/
 community group). If so can you please give details.....

If you have a paid job, can you please tell us:

Are you employed/self employed full time Yes No

Are you employed/self employed part time Yes No

Are you unemployed and claiming benefit Yes No

Are you unemployed and not claiming benefit Yes No

Do you receive any other benefits Yes No

Are you in receipt of state pension Yes No

Are you in receipt of an occupational pension Yes No

Are you the dependant of someone Yes No

Do you consider:

You have not yet reached the menopause/change of life Yes No

You are going through the menopause/change of life Yes No

You have been through the menopause Yes No

None of the above apply - please describe.....

Have you ever used: Breast Awareness Yes No

The Mammography Service Yes No

3.

- 1) , . , .
- 2) , . , , . , , .
3. ;
4.). ;
5. ;
6. ;
7. ;
8. Internet ;
9. ;
10. . ;
11. , , ;
12. ;
(, ,).

. ;
.. ;
. , ,
 , ;
. , Ø internet;
 ,

13.

;
 ;
 . ;
 . , ;
 . ;
 . /
 . ;
 . ;
 . ,
 ;
 () : ; , ;
 , .
 , ;

14.

. « »

« ; »

15.

;

.

;

;

.

∅ ;

16.

;

) ; (

:

;í í í í í í ..

-
-

;í í í í í í í í í í í í í

-
-

□ í í í í í í í í í í í í í í í í

- ; 100
- 100 200
- 200 300
- 300 400
- 400 500
- 500 700
- 700

; í ..
 í ..

í .. ;

í .. ;
 í ..

:

-
-

, ;
 í ..
 í ..

; .
 í ..
 í ..
 í ..

-
-

(/ / , ,)

; .
 í ..
 í ..
 í ..
 í ..

:

;

-
-

;

-
-

;

-
-

;

-
-

;

-
-

;

-
-

;

-
-

;

-
-

:

/

.

-
-

/

-
-

;

-
-

-

í .
í .
í .

:

-
-

-
-

4.

1.

;

2.

;

3.

(, , , .) ;

4.

« » ; .. ;

5.

, .. .

6.

;

- i. , () ();
- ii. () ;
- iii. ;

7.

;

8.

/ ;

9.

;

;

10.

;

11.

;

· ;
· ;

- ;
· ;
· ∅ ;
· ;
12. ; ∅
13. , ... ;
- , ;
14. ;
15. ;
16. ;
17. ;
18. ;
19. , / , ;
20. ∅ ;
- ;
21. , - , , ;
22. ;
- 23.

- ;
24. ;
25. ;
() .
26. ;
27. ;
28. ;
29. ;
30. / , (. . . , ,
, ; , . . .) , (. . . , ,
;

5. **2 ó** : **English version:**
Cancer control practices in Western New York

Cancer Control Practices in Western New York



A COLLABORATION BETWEEN
ROSWELL PARK CANCER INSTITUTE
AND
UB DEPARTMENT OF FAMILY MEDICINE

AN INTRODUCTION

Dear Colleague:

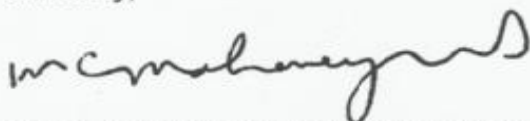
In order to promote high quality preventive care to our patients we must have accurate information about clinical practice.

The survey should take less than 10 minutes and upon return, we will send you a \$100 check as a sign of our appreciation. All responses will be kept confidential and only grouped data will be reported. Each survey has a numerical code only for tracking purposes and the link will be destroyed upon verification of the returned survey.

Your response will help to characterize cancer prevention activities in the WNY region and to develop recommendations to enhance cancer control policies in our community.

Please take a few minutes to complete this survey now, seal with tape and return. Postage has been prepaid. If you have any questions, please contact either myself or Jessica Englert (project director) at 845-3276. Thank you for your support.

Sincerely,



Martin C. Mahoney, MD, PhD, FAAFP
Division of Cancer Prevention & Population Sciences

CANCER CONTROL PRACTICES IN WNY

Instructions: Please mark one response for items #1- 5.

1. At what age should an average-risk person initiate screening for colorectal cancer?
 40 45 50 55 60 years
2. At what age should an average-risk woman initiate screening for breast cancer using clinical breast examination?
 20 25 30 40 years do not recommend
3. At what age should an average-risk woman get a baseline mammogram?
 30 35 40 45 50 years
4. At what age should an average-risk woman begin completing mammograms every 1-2 years?
 35 40 45 50 55 years
5. At what age should an average-risk woman begin yearly mammograms?
 35 40 45 50 55 years

Instructions: Please use multiple responses for items #6-8.

6. For a woman 40 years of age at average risk for breast cancer, please check all of the screening interventions you would advise/prescribe/complete:

self-breast exam	clinical breast exam	mammogram
<input type="checkbox"/> Monthly	<input type="checkbox"/> Yearly	<input type="checkbox"/> Single baseline mammogram
<input type="checkbox"/> Every other month	<input type="checkbox"/> Every three years	<input type="checkbox"/> Mammogram every 2 years
<input type="checkbox"/> Not recommended	<input type="checkbox"/> Not recommended	<input type="checkbox"/> Yearly mammogram
		<input type="checkbox"/> Discuss risk/benefits of screening
		<input type="checkbox"/> Not recommended
7. For a woman 75 years of age at average risk for breast cancer, please check all of the screening interventions you would advise/prescribe/complete:

self-breast exam	clinical breast exam	mammogram
<input type="checkbox"/> Monthly	<input type="checkbox"/> Yearly	<input type="checkbox"/> Mammogram every 2 years
<input type="checkbox"/> Every other month	<input type="checkbox"/> Every three years	<input type="checkbox"/> Yearly mammogram
<input type="checkbox"/> Not recommended	<input type="checkbox"/> Not recommended	<input type="checkbox"/> Discuss risk/benefits of screening
		<input type="checkbox"/> Not recommended
- 8a. Please indicate the sources of cancer screening guidelines which you apply in your practice: [check all that apply]

<input type="checkbox"/> National Cancer Institute	<input type="checkbox"/> American Cancer Society
<input type="checkbox"/> Professional medical society (AAFP, ACOG, ACP/ASIM, etc)	<input type="checkbox"/> HMO
<input type="checkbox"/> Published articles	<input type="checkbox"/> United States Preventive Services Task Force
<input type="checkbox"/> Other: (specify) _____	<input type="checkbox"/> Lectures
- 8b. Circle the **one source** (listed above) for cancer guidelines that you consider to be most important.

CANCER CONTROL PRACTICES IN NY

9. Of the following potential barriers to implementing cancer screening guidelines, please place mark next to the **two most important** barriers to implementation in your practice:
- | | |
|--|---|
| <input type="checkbox"/> lack of familiarity of guidelines | <input type="checkbox"/> outside my usual scope of practice |
| <input type="checkbox"/> conflicting guidelines for cancer screening | <input type="checkbox"/> lack of reminder in chart |
| <input type="checkbox"/> lack of time | <input type="checkbox"/> lack of office organization |
| <input type="checkbox"/> insufficient reimbursement | <input type="checkbox"/> disagree with published guidelines |

Instructions: Please select reply for each response category in item #11

11. Which of the following medications is considered to represent first-line agents for smoking cessation? [check Yes (Y) or No (N) for each item]
- | | | |
|----------------------------|----------------------------|------------------------------------|
| <input type="checkbox"/> Y | <input type="checkbox"/> N | Clonidine |
| <input type="checkbox"/> Y | <input type="checkbox"/> N | Nicotine nasal spray |
| <input type="checkbox"/> Y | <input type="checkbox"/> N | Nortriptyline |
| <input type="checkbox"/> Y | <input type="checkbox"/> N | Bupropion, sustained release/Zyban |
| <input type="checkbox"/> Y | <input type="checkbox"/> N | Nicotine patch |

Instructions: Please select one response under each column for items #12-15

12. For a 50-year-old patient at average risk of colorectal cancer, which screening interventions would you advise/recommend/complete:

DRE

- DRE annually
 DRE q 2 years
 DRE q 5 years
 not recommended

FOBT

- FOBT annually
 FOBT q 2 years
 FOBT q 5 years
 not recommended

Flex Sig (FS)

- FS q 2 years
 FS q 5 years
 FS q 10 years
 not recommended

Colonoscopy (CS)

- CS q 5 years
 CS q 10 years
 not recommended

13. For a 45-year-old patient with a brother diagnosed with CRC at age 56, which screening interventions would you advise/recommend/complete:

DRE

- DRE annually
 DRE at 50 yrs
 DRE q 2 years
 DRE q 5 years
 not recommended

FOBT

- FOBT annually
 FOBT at 50 yrs
 FOBT q 2 years
 FOBT q 5 years
 not recommended

Flex Sig (FS)

- FS immediately
 FS at 50 yrs
 FS q 2 years
 FS q 5 years
 not recommended

Colonoscopy (CS)

- CS immediately
 CS at 50 yrs
 CS q 5 years
 not recommended

Other:

- Refer to surgeon
 Refer to GI specialist
 Refer to comprehensive cancer center
 Refer to genetic counselor
 No referral recommended

FBG

CANCER CONTROL PRACTICES IN WNY

14. For a 52-year-old male patient at average risk of prostate cancer, which screening interventions would you advise/recommend/complete:

- | DRE | PSA | Other |
|--|--|--|
| <input type="checkbox"/> DRE annually | <input type="checkbox"/> PSA annually | <input type="checkbox"/> Discuss risks & benefits of PSA screening |
| <input type="checkbox"/> DRE q 2 years | <input type="checkbox"/> PSA q 2 years | <input type="checkbox"/> no screening recommended |
| <input type="checkbox"/> DRE q 5 years | <input type="checkbox"/> PSA q 5 years | |
| <input type="checkbox"/> not recommended | <input type="checkbox"/> not recommended | |

15. For a 46-year-old male patient with a father diagnosed with prostate cancer at age 55 years, which screening interventions would you advise/recommend/complete:

- | DRE | PSA | Other |
|--|--|--|
| <input type="checkbox"/> DRE annually | <input type="checkbox"/> PSA annually | <input type="checkbox"/> Discuss risks & benefits of PSA screening |
| <input type="checkbox"/> DRE q 2 years | <input type="checkbox"/> PSA q 2 years | <input type="checkbox"/> Refer to cancer center |
| <input type="checkbox"/> DRE q 5 years | <input type="checkbox"/> PSA q 5 years | <input type="checkbox"/> Refer to urologist |
| <input type="checkbox"/> Not recommended | <input type="checkbox"/> Not recommended | <input type="checkbox"/> Refer to genetic counselor |
| | | <input type="checkbox"/> No screening recommended |

16. How frequently do you complete full skin cancer screening examinations on your patients:

- when requested by patients
- at preventive visits
- do not perform routine skin examinations

17. For a 48-year-old smoker, otherwise healthy, who presents to your office stating that they are ready to quit smoking, which interventions would you advise/prescribe/complete: (Please check all that apply)

1st line of action

- advise that they stop cold turkey
- advise a gradual reduction in daily # cigarettes smoked
- advise individual counseling
- prescribe Bupropion SR/Zyban
- prescribe Clonidine
- prescribe Nortriptyline
- prescribe/recommend Nicotine patch
- prescribe/recommend Nicotine gum
- prescribe/recommend Nicotine lozenge
- prescribe/recommend Nicotine inhaler
- prescribe/recommend Nicotine nasal spray
- recommend enrollment in counseling program
- recommend follow-up appointment

2nd line of action

- advise that they stop cold turkey
- advise a gradual reduction in daily # cigarettes smoked
- advise individual counseling
- prescribe Bupropion SR/Zyban
- prescribe Clonidine
- prescribe Nortriptyline
- prescribe/recommend Nicotine patch
- prescribe/recommend Nicotine gum
- prescribe/recommend Nicotine lozenge
- prescribe/recommend Nicotine inhaler
- prescribe/recommend Nicotine nasal spray
- recommend enrollment in counseling program
- recommend follow-up appointment

CANCER CONTROL PRACTICES IN WNY

18. How easy is it for you to understand cancer screening recommendations for...

	← Easy to comprehend		Somewhat confusing		Very confusing →
Colorectal cancer	1	2	3	4	5
Prostate cancer	1	2	3	4	5
Breast cancer	1	2	3	4	5
Skin cancer	1	2	3	4	5
Cervical cancer	1	2	3	4	5

19. Ignoring issues of cost and presuming that a test could accurately identify nearly all women with a deleterious mutation (BRCA1/BRCA2) would you recommend this genetic test of inherited breast cancer susceptibility to: [check one response]

- All women
- Only women with one or more first-degree relatives (mother, sister, daughter) with breast cancer
- Only women with two or more one first-degree relatives with breast cancer
- Women with any family history of breast cancer
- Only those women who request genetic testing for breast cancer risk
- Would not recommended genetic testing for breast cancer.

20. Consider an asymptomatic 35 year old woman with a confirmed inherited susceptibility to breast cancer that confers an 80% chance of developing breast cancer during her lifetime and a 50% chance of developing the disease before age 50. Would you recommend: [check all that apply]

- Regular breast self-exam
- Annual mammography and clinical breast examination
- Mammography and clinical breast examination more than once a year
- Regular ovarian cancer screening with CA-125 and transvaginal ultrasound
- Prophylactic mastectomy
- Prophylactic oophorectomy
- Use of selective estrogen receptor modulator (tamoxifen or raloxifene) as chemoprevention
- Participation in a clinical trial of breast cancer prevention
- Referral to a genetic counselor
- Referral to a cancer center

21. Ignoring issues of cost and presuming that a test could accurately identify nearly all patients with an inherited susceptibility to colorectal cancer, would you recommend this genetic test of inherited colorectal cancer susceptibility to? [check one response]

- All persons
- Only persons with 1 or more first-degree relatives (parent, sibling, child) with colorectal cancer
- Only persons with 2 or more first-degree relatives with colorectal cancer
- Persons with any family history of colorectal cancer
- Only those persons who request genetic testing for colorectal cancer risk
- Would not recommended genetic testing for colorectal cancer

CANCER CONTROL PRACTICES IN WNY

22. Consider an asymptomatic 45 year old patient with a confirmed inherited susceptibility to colorectal cancer that confers a 60% chance of developing colorectal cancer during their lifetime. Would you recommend: [check all that apply]

- Annual colonoscopy
- Colonoscopy every two years
- Colonoscopy more than once a year
- Screening with periodic CEA testing
- Prophylactic colectomy
- Prophylactic oophorectomy
- Participation in a clinical trial of colorectal cancer prevention
- Referral to a genetic counselor
- Referral to a cancer center

23. Check response to each item below:
- | | Strongly
agree | Agree | Neutral | Disagree | Strongly
disagree |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| I feel sufficiently prepared to take a family history: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I am comfortable preparing pedigrees: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I feel sufficiently trained to counsel about the use of genetic testing: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I feel sufficiently trained to counsel about genetic test results: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- 24a. How many patients have you referred for genetic counseling in the past year?

- none one two three four or more

- 24b. For how many patients have you completed genetic testing in the past year?

- none one two three four or more

25. Which management options would you follow for a symptomatic 54-year-old patient who has smoked 1 pack of cigarettes daily for 35 years and was exposed to asbestos for 11 years in a prior job? [check Yes (Y) or No (N) for each item]

- Y N order CXR
- Y N order sputum cytology
- Y N order a chest CT/spiral CT
- Y N refer for Laser Induced Fluorescence Endoscopy (LIFE)
- Y N refer to cancer center
- Y N refer to pulmonologist

CANCER CONTROL PRACTICES IN WNY

26. Indicate your level of interest in attending continuing medical education (CME) programs on the following topics:

	←	Not at All Interested		Neutral		Extremely Interested	→
Smoking cessation		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pap smears & colposcopy		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breast cancer & mammography		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sigmoidoscopy/colonoscopy		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lung cancer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genetic risk assessment		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cancer chemoprevention		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemotherapy		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skin cancer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prostate cancer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other topics you would be interested in: [please list]

27. **Demographics:**

Gender: Female Male

Age: ____ years

Race: White African American

Other: _____

Ethnicity: Latino non-Latino

Professional group?:

Physician → specialty

FP

GP

IM → sub-specialty _____

OB-GYN

Other _____

PA → specialty _____

NP → specialty _____

Board Eligible: Yes No

Board Certified: Yes No

Do you consider yourself to provide Primary Care? Yes No

Are you currently in clinical practice?

No Yes

If yes, total years in clinical practice: ____ years

CANCER CONTROL PRACTICES IN WNY

Practice Type:

- Solo
 Single specialty group
 Multi-specialty group
 Other: _____

Work Schedule:

- Full time (35+ hours/week)
 Part time (<35 hours/week)

	< 20%	21-39%	40-59%	60-79%	80-100%
Percent of time spent in clinical practice each week:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are you involved in supervision of trainees: Yes No

Zip code where most clinical practice is based: _____

Total CME credits earned during 2002 _____

Would you be willing to permit access to charts in your office for a brief review similar to that done by health insurance companies?

(In return, you will be provided with a confidential summary of results from your office chart review compared with those of your peers.)

- Yes Maybe No

Would you be interested in participating in research projects organized through a community based research network?

- Yes Maybe No

Would you be interested in information about cancer prevention/screening trials in which your patients might participate?

- Yes Maybe No

Have you visited the Roswell Park website (www.RoswellPark.org)?

- Yes No

THANK YOU.

Finally, please check box below if you wish to receive periodic updates about this and related activities.

- Yes, please send updates

6. : 2 ó :

:

,

,

ΠΕΡΙΦΕΡΕΙΑ ΚΡΗΤΗΣ
ΧΑΡΤΗΣ ΥΓΕΙΑΣ & ΠΡΟΝΟΙΑΣ



Roswell Park Cancer Institute,

**, Martin C. Mahoney, MD, PhD, FAAFP
Roswell Park Cancer Institute and UB Department of Family
Medicine (version 2003).**

· · · · ·
· · · · · / · · · · ·
· · · · · PhD ·
· · · · ·
· · · · ·, MSN, MA

:

1-5

1.

;

40 45 50 55 60

2.

, ;

20 25 30 40

3.

;

30 35 40 45 50

4.

1-2 ;

35 40 45 50 55

5.

;

35 40 45 50 55

:

6-8

6.

40

, / / :

0-

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		/
		<input type="checkbox"/>
		<input type="checkbox"/>

:

11

11.

(): -- ô

-
-
-
-
-
-

()

()

/Zybran

:

12 15

12.

50

,
/ :

DRE :

FOBT : Mayer

Flex Sig (FS): ()

(CS):

DRE		FOBT		Flex Sig (FS)		(CS)	
<input type="checkbox"/>	DRE	<input type="checkbox"/>	FOBT	<input type="checkbox"/>	FS 2	<input type="checkbox"/>	CS 5
<input type="checkbox"/>	DRE 2	<input type="checkbox"/>	FOBT 2	<input type="checkbox"/>	FS 5	<input type="checkbox"/>	CS 10
<input type="checkbox"/>	DRE 5	<input type="checkbox"/>	FOBT 5	<input type="checkbox"/>	FS 10	<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>			

13

45

56

/ / :

DRE :

FOBT :

Flex Sig (FS): ()

(CS):

DRE		FOBT		Flex Sig (FS)		(CS)	
<input type="checkbox"/>	DRE	<input type="checkbox"/>	FOBT	<input type="checkbox"/>	FS	<input type="checkbox"/>	CS
<input type="checkbox"/>	DRE 50	<input type="checkbox"/>	FOBT 50	<input type="checkbox"/>	FS 50	<input type="checkbox"/>	CS 50
<input type="checkbox"/>	DRE 2	<input type="checkbox"/>	FOBT 2	<input type="checkbox"/>	FS 2	<input type="checkbox"/>	CS 5
<input type="checkbox"/>	DRE 5	<input type="checkbox"/>	FOBT 5	<input type="checkbox"/>	FS 5	<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>			

-
-
-
-
-

14. 52 / / :

DRE :
PSA:

DRE		PSA			
<input type="checkbox"/> DRE		<input type="checkbox"/> PSA		<input type="checkbox"/>	PSA
<input type="checkbox"/> DRE	2	<input type="checkbox"/> PSA	2	<input type="checkbox"/>	
<input type="checkbox"/> DRE	5	<input type="checkbox"/> PSA	5		
<input type="checkbox"/>		<input type="checkbox"/>			

15. 46 / / : 55 ,

DRE:
PSA:

DRE		PSA			
<input type="checkbox"/> DRE		<input type="checkbox"/> PSA		<input type="checkbox"/>	PSA
<input type="checkbox"/> DRE	2	<input type="checkbox"/> PSA	2	<input type="checkbox"/>	
<input type="checkbox"/> DRE	5	<input type="checkbox"/> PSA	5	<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
				<input type="checkbox"/>	

16. :

-
-
-

17. 48 , , / /

()

- 1
-
-
-
- B /Zyban
-
- No
- /
- /
- /
- /
- /
-
-

2

-
-
-
-
-
-
-
-
-
-
-
-
-
-

B /Zyban

N

- /
- /
- /
- /
- /

18. :

o					
1	2	3	4	5	
1	2	3	4	5	
1	2	3	4	5	
1	2	3	4	5	
1	2	3	4	5	

19. (BRCA1/BRCA2)

(,) ;

-
-
-
-
-
-

20. 35 80%

50 : (50%)

-
-

-
-
-
-
-
-
-
-

CA-125

(tamoxifen or raloxifene)

21.

(,) ;

-
-

(, ,) o

-
-
-
-

22.

45

60%

() :

-
-
-
-
-
-
-
-
-
-

CEA

23.

:

:

:

:

:

24 .

;

24 .

;

25.

54

11

35

;().

o

26.

:

(test pap)

-

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

():

í
 í
 í
 í .

27.

:

-
-

:í í í í ..

:í í í í í í í í í ..

ó :

-
-
-
-
-

-

í í í í í í í í í í í .

í
 í

 ()
 :í í í í í í í í í í í í í í í í í í .

;

-
-

□ □ ;
 , :í í í í .

□
 □
 □
 □ í

□ :
 □ (35+)
 □ (< 35)
 <20% 21-39% 40-59% 60-79% 80-100%
 □ □ □ □ □

□ :
 - ; □ □
 :í í í í í í í ..

□ ;
 (, ,).

□ □ □
 ;

□ □ □
 /
 ;

□ □ □
 ,

□ ,

1. **1. Maria Trigoni, Christos Lionis, Frances Griffiths, Eileen Green,**
Mammography: decision making in Crete and the UK, European Journal of
General Practice, Volume 9, December 2003, Verona.
2. **M. Trigoni,** «Mammography screening for women in Crete: Who does decide
about them?», A Greek ó Swedish meeting on Primary Care, key issues, the
Clinic of Social and Family Medicine & the Laboratory of Health Planning
and Health Services University Hospital of Heraklion, Crete, 9-11 September
2004.
3. **. Trigoni, F. Griffiths, D. Tsiftsis, E. Koumantakis, C. Lionis,**
Mammography use among women in rural Crete: What are the barriers?, 11th
Conference of the European Society of General practice/family Medicine,
<From Hippocrates to the Human Genome: the past, present, and the future of
General Medicine/ Family Practice, Kos Island,Greece, 2005, Book of
abstracts, OP 649, p.56.
4. . , . , . , . , . , . , . :
 , 2
 , 13-16 2006. , .
 , 3, , .42.
5. . , , . . . :
 - ,
2007. . ,
6. . , . , 3
 , 13
2007. , : «
».