Cervical and Breast Cancer Screening Tests Utilization in a Greek Island Population

Noula Maria
RN, Associate Professor, Nursing Department of TEI, Lamia
Leontzini Athina
RN TEI of Lamia
Anastasiadis Anastasis
Resident Doctor, Obstetrics-Gynecology Department, General Hospital of Tripoli
Ifanti Eleni
Health Visitor, MSc, Laboratory Cooperator of Nursing Department of T.E.I., Lamia
Tsiriga Sofia
Health Visitor, MSc Health Center of Stylida
Serifis Christos
Technologist-Radiologist, General Hospital of Kos
Gesouli-Voltiraki Eftihia RN
Assistant Professor, Nursing Department, TEI of Lamia

ABSTRACT

Background: Cervical and breast cancer still remain two of the most common types of cancer worldwide, with a great mortality rate. The purpose of the present study was to investigate the participation of women in a Greek island in cervical and breast cancer screening tests. Mammography, Clinical Breast Examination (CBE) and Pap test were studied.

Material and method: Two hundred women from the broader area of the island of Chios filled in equal number of closed type questionnaires regarding the demographic information of the subjects, the usage of gynecological health care services and gynaecological cancer screening tests.

Results: The mean age of the women of the sample was 43± 11.02 years old. Rates of mammography. CBE and Pap test in the whole sample were 41.5%, 69.5% and 87%. Employed, engaged and women of high income had higher rates of Pap test. Women gratuates of high school or lower had higher percentages of mammography. Women over 40 yrs old had higher rates of all the three screening tests, at least once in a lifetime.

Conclusions: Pap test is the most frequent examination. Socioeconomic status is related to screening test utilization. Women of lower income underutilize screening services. Special attention should be paid to younger ages.

Introduction

Cervical and breast cancer still remain two of the most common types of cancer worldwide, with a great mortality rate (Ferlay et al 2004, Knutson & Steiner 2007). The screening tests can lead to a decrease of the incidents these two cancers. Indeed, this has partly happened both in Greece and in other developed countries, during the last 10 years (Kiriakogianni et al 1998, Dimitrakaki et al 2009). The screening guidelines for the diagnosis of breast cancer are continually changing. Because of increased awareness of the signs and symptoms of breast cancer and the use of screening mammograms, breast cancer is increasingly being diagnosed at earlier stages. Annual mammograms and clinical breast examinations are recommended for women

older than 40 years. Women older than 20 years should be encouraged to do monthly breast self-examinations, and women between 20 and 39 years of age should have a clinical breast examination every three years. (Knutson& Steiner 2007). Regarding Pap test, the test should be taken within 3 years of onset of sexual activity (http://www.cdc.gov/std/hpv/ScreeningTable.pdf)

Nevertheless, women participation are far than optimal and considerable disparities among various population groups exist. Higher rates are reported for Pap test in comparison to mammography, while breast clinical is often neglected. Indeed, after robust, rapid increases in reported use of mammography by women in the U.S. since 1987, estimates from the 2005 NHIS showed a decline compared with 2000 (from 70% to 66%)(Breen et al 2007). Rates for Pap test are usually beyond 70 %, while clinical breast examination rates are usually below this point (Peterson et al 2008).

Data from Greece are sparse, especially those regarding clinical breast examination. The purpose of the present study was to investigate the participation of Greek women in cervical and breast cancer screening tests. Mammography, Clinical Breast Examination (CBE) and Pap test were studied.

Material and Method

Researchers visited workplaces, homes, hair salons and beauty parlors in order to include unemployed women in the sample. A closed type questionnaire was used. This questionnaire has been used in similar surveys in Greece in the past(Davou 2005). Questionnaires were also distributed to Public Services and Legal Persons of Public Law. The workplaces where the data were collected were a public hospital, the central offices of some banks and some private companies. The participants were informed regarding the purpose of the study and then the questionnaires were handed out to the women who were interested in the study. It was made clear that the data were collected confidentially and that no person could be identified from the results of the study.

The questionnaires were completed in the presence of the researchers, to whom the participants could ask explanatory questions. The questionnaire was created by the research team and contained questions regarding the demographic data of the subjects and the use of gynecological Health Care Services. Two hundred women participated in this research.

Statistics

Initially, a descriptive statistical analysis was conducted and contingency tables were formed on the questioned variables. The x^2 test was used on the qualitative variables along with Yates correction for 2x2 tables. Variables regarding screening test frequencies were dichotomized to "never" and 'at least once". The statistic package SPSS, 13.0 for Windows was.

Results

The average age of the women of the sample was 43± 11.02 years old, with 18 years being the minimum and 71 the maximum age. Eighty seven percent (174)of the women were married. A 79.5% (159) of the women were working, while of the women reported up 52.6 % to as their monthly income. Regarding their educational level, 5% were Elementary graduates, 12.5% were Junior High School graduates, 45% were High School Graduates or Technical School of secondary education graduates, 39% University or Higher Technical Educational Institute graduates (Table 1). Rates of mammography. CBE and Pap test in the whole sample were 41.5%, 69.5% and 87% (Table 2). Mammography rates in women over forty years old were 56.7 % (Table 2). Women of lower educational level(high school or lower) had higher percentages of mammography (at least one in their lifetime)(Table 3). Employed, engaged or married women,of higher education and income and had statistically significant higher rates of Pap test. CBE was more frequent among women of higher income(>1000 euros) (Tables 4, 5, 6). Women over 40 yrs old had higher rates of all the three screening tests (Table 7).

Table 1. Demographic characteristics of the sample

Variables	N	%	Mean(± SD),
Age (years)	200	100,0	43 ± 11,02
			71-18
Age of married people	174	87,0	42± 10,52
Age of unmarried people	26	13,0	34± 12,01
Total	200	100,0	
Employment			
Yes	159	79,5	
No	41	20,5	
Total	200	100,0	
Monthly income			
< 500 euros	32	16,5	
500-1000	70	36,1	
1000-1500	67	34,5	
1500-2000	16	8,3	
> 2000	9	4,6	
Total	194	100,0	
Educational level			
Elementary graduates	10	5,0	
Junior high school graduates	25	12,5	
High school and technical schools	90	45,0	
Universities/TEI	72	36,0	
Post-graduate studies	3	1,5	
Total	200	100,0	

Table 2 . Percentages of screening tests in the sample

Mammography		
Yes	83	(41.5%)
No	117	(58.5%)
Total	200	(100%)
Μαστογραφία σε γυναίκες άνω των 40 ετών		
Yes	68	(56.7%)
No	52	(43.3%)
Total	120	(100.0%)
KEM		
Yes	139	(69.5%)
No	61	(30.5%)
Total	200	(100%)
Παπ τεστ		
Yes	174	(87 %)
No	26	(13%)
Total	200	(100%)

Table 3. Educational level and screening tests

		High school or lower	AEI/TEI	Total
Mammography ever				
	Yes	57	26	83 (41.5%)
	No	62	55	117 (58.5%)
Total		119	81	200
p=0,026				
Clinical Breast Examination ever				
	Yes	79	60	139
	No	40	21	61
Total		119	81	200
p=0,246				
Test Pap ever				
	Yes	103	71	174
	No	16	10	26
Total		119	81	200
p=0,820				

Table 4. Employment and screening tests

		Employment		Total
		Yes	No	
Mammography ever				
	Yes	64	19	83
	No	95	22	117
Total		159	41	200
p=0,48				
Clinical breast examination ever				
	Yes	112	27	139
	No	47	14	61
Total		159	41	200
p= 0,57				
Test Pap ever				
	Yes	144	30	174
	No	15	11	26
Total		159	41	200
p=0,003				

Table 5. Monthly income and screening tests

		Monthly income		Total
		≤1000€	>1000€	
Mammography ever				
	Yes	37	43	80
	No	65	49	114
Total		102	92	194
p=0,139				
Clinical breast examination ever				
	Yes	64	71	135
	No	38	21	59
Total		102	92	194
p=0,029				
Test Pap ever				
	Yes	80	88	168
	No	22	4	26
Total		102	92	194
p=0,000				

Table 6. Marital status and screening tests

		Engaged or married	Unmarried	Σύνολο
Mammography ever				
	Yes	76	7	83
	No	99	18	117
Total		175	25	200
p=0,143				
Clinical Breast Examination ever				
	Yes	124	15	139
	No	51	10	61
Total		175	25	200
p= 0,270				
Test Pap ever				
	Yes	160	14	174
	No	15	11	26
Total		175	25	200
p= 0,000				

Table 7. Age and screening tests

		Ηλικία ≤40	Ηλικία >40	Σύνολο
Mammography ever				
	Yes	15	68	83
	No	65	52	117
Total		80	120	200
p= 0,000				
Clinical Breast Examination ever				
	Yes	48	91	139
	No	32	29	61
Total		80	120	200
p= 0,017				
Test Pap ever				
	Yes	64	110	174
	No	16	10	26
Total		80	120	200
p= 0,000				

Discussion

According to the findings of the present study the Pap test, was the most frequently conducted screening test. High rates of Pap test are reported in developed countries, even though the extent of the mass population checks varies depending on the country. For example, in England, 83% of the women of age 25-64 years old are checked in recommended interims in comparison to 53-74% of the women in Italy age 25-64 years old. (Antilla et al 2004). Mammmography and CBE rates are lower in general and questions about future cancer cases are emerged. The percentages of Korean American women who ever had a CBE and mammography was estimated at 67 % and 58 %, respectively (Han et al 2000). The rates in developing countries are disappointing. In a research which was conducted in Nigeria, it was found that 2/3 of the students (60% of whom were sexually active) didn't know the purpose of the Pap test, whereas none of the 220 people in the study had done the examination (Akujobi et al 2008). Data from previous studies in Greece reported breast and cervical cancer screening rates between 50 -70 %, depending on age and social groups) (Paraskevopoulou et al 2005,Dimitrakaki et al 2009). Specifically, the percentage of women aged 21-69 years having received the Pap smear test within the past 3 years was 59.4%, and the percentage of women aged 50-69 years having received mammography within the past 3 years was 53.8 and 8.3%, respectively. It was also found that 25% of the women (average age of the sample was 42 years old) had never done a Pap test in their life. There were significant effects of age, education and marital status on carrying out the Pap smear test or mammography) (Dimitrakaki et al 2009)

SocioEconomicStatus has an effect on breast and cervical cancer screening. In general, women of low household income, less educated are at particular risk of preventive care underutilization (Katz & Hoffer 1994, Peek & Han 2004). According to a study in the USA, women with lower SES are more likely to be uninsured and lack a usual source of care. Compared to their middle-class and wealthy counterparts, low-income women have the lowest rates of breast cancer screening, even when adjusted for race, ethnicity, and insurance status (Katz & Hoffer 1994). Regarding Pap test, a study conducted in the largest cities of the USA, showed that low family income (< $15,000), and also the relatively low level of education (Junior High School graduates) came together with lower percentages of women conducting the Pap test (approximately 75%)(Coughlin et al 2006).

Studies conducted in various countries, such as the USA, Canada, Taiwan, as well as Latin America pinpoint the role of the social inequalities in the matter of prevention (McDonald & Kennedy 2007, Reyes-Ortiz et al 2007). A research in Taiwan revealed that even when there is free access to breast and cervical screening, the participation of people with low socioeconomic level was limited (Lin et al 2008). However, regarding mammography, lesser-educated African American women showed higher rates versus comparable white women with higher educated less often conducted the examination(Wilson et al 2009). Screening for cervical cancer shows a higher educational gradient than for breast cancer screening and although there is an increase in the mammography practice related to the educational level in older groups, this fact is not observed in women younger than 40 years (Borras et al

1999). Women of high education in Greece has been found to conduct mammography slightly less often in comparison to those of middle and basic education (Dimitrakaki et al2009). Perhaps one could make an assumption that the higher the education, the greater the fear either of a positive examination or mammography consequencies. As for marital status, screening percentages

are lower in single women, both in Greece and worldwide (Dimitrakaki et al 2009, Cabeza et al 2007). Younger ages (<40 yrs) had lower rates of screening. This is a point demanding further attention of health professionals and Public Health services, especially in the case of cervical cancer, where the early onset of preventive tests are extremely important.

Limitations of the study

The sample of the study was rather small and not stratified. The number of elderly women was small and no

conclusion could be drawn regarding screening test frequencies in older age.

References

Akujobi CN., Ikechebelu JI., Onunkwo I., Onyiaorah IV., 2008. Knowledge, attitude and practice of screening for cervical cancer among female students of a tertiary institution in South Eastern Nigeria. Nigerian journal of clinical practice11(3), 216-9.

Anttila, A., Ronco, G., Clifford, G., Bray F., Hakama., M., Arbyn., M., Weiderpass., E., 2004. Cervical cancer screening programmes and policies in 18 European countries. British journal of cancer 91(5),935-41

Borràs, J.M., Guillen, M., Sanchez, V., Juncà., S., Vicente., R., 1999. Educational level, voluntary private health insurance and opportunistic cancer screening among women in Catalonia (Spain). European journal of cancer prevention 8(5),427-34.

Breen., N.A., Cronin, K., Meissner, H.I., , Taplin., S.H., Tangka., F.K., Tiro., J.A., McNeel., T.S., 2007. Reported drop in mammography: is this cause for concern? Cancer. 109(12), 2405-9

Cabeza, E., Esteva, M., Pujol, A., Homas., V., Sanchez-Contador., C., 2007. Social disparities in breast and cervical cancer preventive practices. European journal of cancer prevention 16(4), 372-9

Coughlin, S.S., King, J., Richards, T.B., Ekwueme., D.U., 2006. Cervical cancer screening among women in metropolitan areas of the United States by individual-level and area-based measures of socioeconomic status, 2000 to 2002. Cancer epidemiology, biomarkers & prevention 15(11), 2154-9

Davou, E., Katostaras, T., 2005. Search Behavior and choice of an obstetrician gynecologist in Greek urban population. Review of clinical pharmacology and pharmacokinetics, international edition 19, 143 – 148

Dimitrakaki, C., Boulamatsis, D., Mariolis, A., Kontodimopoulos., N., Niakas., D., Tountas., Y., 2009. Use of cancer screening services in Greece and associated social factors: results from the nation-wide Hellas Health I survey. European journal of cancer prevention 18(3), 248-57

Ferlay J., Bray F., Pisani, P., 2004. Cancer Incidence, mortality and prevalence worldwide.IARC CANCER Base No.5 . version 2.0 IARC Press, Lyon

Han, Y., Williams, R.D., Harrison, R.A.,2000.Breast cancer screening knowledge, attitudes, and practices among Korean American women. Oncology nursing forum 27(10),1585-91

Katz, S. J., Hofer, T.P.,1994. Socioeconomic disparities in preventive care

persist despite universal coverage: breast and cervical cancer screening in Ontario and the United States. Journal of the American Medical Association. 272,530–4

Kiriakogianni-Psaropoulou, P., Zarogianni, Ch., Markidou, S., Poulianou., E., Kyrkou., K., Koutselini., E., Kizi., O., Daskalopoulou., D., Martinopoulou., O., Sidoni., S., Filippas., S., Abatzoglou., E., Mihas., A., Kakaboulis., P., Gravas S., ,1998. Screening for on time diagnosis of the cervical cancer in Greece (Ilea-Messenia) MEDICINE. 74 (3), 236-241

Knutson., D., Steiner, E., 2007. Screening for breast cancer: current recommendations and future directions American family physician 75(11),1660-6

Lin, S.J., 2008. Factors influencing the uptake of screening services for breast and cervical cancer in Taiwan. Journal of the Royal Society of Health 128(6),327-34

McDonald, JT., Kennedy, S.,2007. Cervical cancer screening by immigrant and minority women in Canada. Journal of immigrant and minority health 9(4),323-34.

Nelson., D., Bland., S., Powell-Griner ., E., Klein., R., Wells., H.E., Hogelin., G., Marks., J.S.,2002. State Trends in Health Risk Factors and Receipt of Clinical Preventive Services Among US Adults During the 1990s JAMA. 2002;287:2659-2667.

Paraskevopoulou, E., Economou, A., Panagopoulos, P., Zikopoulos., M., Petrakos., G., Koutras., I. , 2005.Cervix cancer screening among Greek and immigrant women: the experience of a Greek District Hospital. Clinical and experimental obstetrics & gynecology 32(1), 52-4

Peek, M.E, Han, J.H.,2004. Disparities in screening mammography. Current status, interventions and implications. Journal of general internal medicine 19(2),184-94.

Peterson, N.B., Murff, H.J., Cui, Y., Hargreaves., M., Fowke., J.H., 2008.Papanicolaou testing among women in the southern United States. Journal of women's health 17(6),939-46

Reyes-Ortiz, C.A., Camacho, M.E., Amador, L.F., Velez., L.F., Ottenbacher., K.J., Markides., K.S., 2007. The impact of education and literacy levels on cancer screening among older Latin American and Caribbean adults. Cancer control 14(4),388-95

Wilson., D.B., McClish., D., Tracy., K., Quillin., J., Jones., R., Bodurtha., J.,2009.Variations in breast cancer screening and health behaviors by age and race among attendees of women's health clinics. J Natl Med Assoc. 101(6),528-35.