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Primary Care Physicians' Perceived Barriers to Cancer Prevention and Control. Comparison in Two Different Environments

Percepción de obstáculos de los médicos de atención primaria para la prevención y el tratamiento del cáncer. Comparación en dos diferentes entornos

Kahan E, * El-Najjr K. **

** Department of Family Medicine, Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel. ** Ministry of Health, Palestinian Authority.*

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Correspondencia: Dr. Ernesto Kahan. *Head Epidemiology-Department of Family Medicine, Tel Aviv University, Israel.*
E-mail: ekahan@post.tau.ac.il

ABSTRACT

Background: Primary care physicians' identification of practice-related barriers to cancer screening is essential to the success of screening programs. The purpose of the present paper was to study primary care physicians' perceived barriers to cancer prevention and control. **Methods**: Cross-sectional questionnaire survey in Israel and the Palestinian Authority. This study was done under the auspices of The Middle East Cancer Consortium. A 9-part questionnaire on barriers to cancer prevention was distributed to 264 randomly selected family physicians, 144 in Israel and 120 in the Palestinian Authority. Sample size was determined according to the formula, n =Z2/1–alpha/2P(1-P)/d². **Results**: Response rates were 79.2% and 90.0% in the Israeli and Palestinian groups, respectively. Both populations detect similar barriers, although more Palestinians believed that their "practice of cancer screening is inhibited by lack of resources [in general] and equipment [in particular]" ($p< 0.001$). Both also showed a high level of agreement with the statements, "It is difficult to practice preventive medicine for cancer," and "A yearly health examination is important for the early detection of cancer," and a similar intermediate level of agreement with the statement, "I often forget to indicate/perform screening tests for cancer on my asymptomatic patients," and "Periodic physical examination of every asymptomatic patient is unnecessary". **Conclusions**: The persistent gaps in many areas of cancer screening call for extensive programs in physician and patient education, in addition to targeted allocation of resources, dissemination of guidelines, and an increase in accessibility. These findings may have heuristic value for other ethnic, cultural, or geographic populations.

Key Words: Family Practice, Screening, Cancer.

RESUMEN

Antecedentes: La identificación de obstáculos para la prevención del cáncer por médicos de atención primaria es esencial para el éxito en los programas de detección. El objetivo del presente artículo fue estudiar la percepción de barreras para la prevención y control del cáncer. **Métodos**: Estudio transversal. Se aplicó un cuestionario en Israel y la Autoridad Palestina. Este estudio fue hecho bajo los auspicios del Consorcio del Cáncer del Medio Oriente. El cuestionario estuvo constituido por nueve categorías en torno a los obstáculos para la prevención el cáncer; fue distribuido al azar a un total de 264 médicos de familia: 144 en Israel y 120 en la Autoridad Palestina. El tamaño de la muestra fue determinada de acuerdo a la fórmula, n =Z2/1–alpha/2P (1-P)/d². **Resultados**: Las tasas de respuesta fueron 79.2% y 90.0% en los grupos Israelí y Palestino respectivamente. Ambas poblaciones detectaron obstáculos similares aunque una mayoría de médicos palestinos creía que en su consulta cotidiana la detección del cáncer estaba inhibida por falta de recursos [en general] y por falta de equipo [en particular] ($p< 0.001$). Ambos mostraron alto nivel de concordancia en sus declaraciones "Es difícil el ejercicio de la medicina en el caso del cáncer" y "Un examen de salud al año es importante para la detección temprana del cáncer"; presentaron un nivel similar de concordancia con respecto a la siguiente expresión: "Yo a menudo olvido indicar pruebas de detección de cáncer en pacientes asintomáticos" y "El examen físico periódico a todo paciente asintomático es innecesario". **Conclusiones**: Los vacíos existentes en la mayoría de las áreas para la detección del cáncer, exigen programas de una educación médica más comprometida así como una eficaz educación para la salud en los pacientes. Además deberían asignarse mayores recursos para difundir las guías de diagnóstico clínico e incrementar su accesibilidad. Estos hallazgos podrían tener un útil valor heurístico para otras poblaciones desde una perspectiva étnica, cultural o geográfica.

Palabras Clave: Medicina Familiar, Tamizaje, Cáncer.

Introduction

The importance of periodic screening in reducing the mortality associated with various types of cancer has been well demonstrated.[1] However, there remain many barriers to cancer screening. Some are patient-related, such as low socioeconomic status,[2-8] poor education,[9] and poor knowledge about disease,[2-8] fear of diagnosis,[3,4] discomfort and embarrassment,[4] and ethnic- or culture-based misconceptions.[2-8,10] Other barriers, however, are related to the medical profession itself and fall under its direct responsibility. These include poor communication skills,[3,8] inconsistent recommendations[6] or inadequate patient referrals,[11] lack of confidence in patient counseling or examination,[12] poor accessibility,[4,5,9] and high costs [4].

The aim of the present study was to examine the perceived barriers to cancer control and screening of primary care physicians in Israel and the Palestinian Authority. The study was supported by the Middle East Cancer Consortium (MECC),[13] made up of members from Cyprus, Egypt, Jordan, Israel and the Palestinian Authority, which supports collaborative studies intended to decrease the burden of cancer in this region. The MECC was established in Geneva in 1996 by an agreement signed by the Ministers of Health of the participating countries and witnessed by the United States Secretary of Health and Human Services and by the Director of the National Cancer Institute of the National Institutes of Health. The charter of the consortium[13] states that, "Multilateral cooperation in the Middle East in medicine and health research will strengthen the bonds of friendship and understanding among their people and advance the state of public health to the benefit of all parties, as well as mankind generally."

Methods

Sample selection

In a pilot study conducted with primary care physicians, 50% perceived obstacles to the implementation of screening tests for cancer in their practice. This rate is consistent with the 40 to 60% noted by Soliman et al [14] in Egypt among physicians who did not have a postgraduate education. Assuming the anticipated proportion of 50% as the "safest choice",[15] at a confidence level of 95% and absolute precision of 40-60% (10 points in either direction from the true proportion), the sample size required for the present study, using the formula $n = Z2/1-\alpha/2P(1-P)/d^2$, was 96 for each population (Israeli and Palestinian). To account for a possibly low response rate or a need to consider additional variables in the final analysis, we increased this number by 50% in the Israeli population and 25% in the Palestinian population (where a higher response rate was expected by a consultation sample). Thus, the final sample consisted of 144 Israeli and 120 Palestinian family physicians.

In Israel, the National Health Insurance Law stipulates that every resident must be registered with one of the four recognized health maintenance organizations, which then assigns him/her to a primary care physician. On average, a family practice comprises 1000-1800 people.[16]

To obtain a comprehensive sample in Israel, we selected primary care physicians employed by the largest of the four health management organizations in the country, Clalit Health Services, which covers about 70% of the national population. The Directory of Services of Clalit Health Services lists 2679 primary care physicians. To obtain the required 5.4% of this number (i.e., n = 144), we started at random from number 3 on the list and selected one in every 20 consecutive physicians.

Data Collection

Each physician selected for the study was sent by post a copy of the questionnaire by post together with a letter signed by the principal investigator. A stamped return envelope was included. Those who did not respond after

one month were sent a reminder, which included a second copy of the questionnaire, a second letter, and a stamped return envelope. Physicians who still failed to comply were contacted regularly by telephone by the research staff throughout the next 6 months. In this manner, we achieved a response rate of about 80%. Unfortunately, some of the returned questionnaires had omissions which we could not complete by telephone inquiry because of our guarantee of anonymity. For quality control, the completed questionnaires were reviewed before data abstraction by the staff, who regularly updated the lists of physicians who complied with the study.

Questionnaire

We developed a questionnaire on the basis of published papers about primary care physician knowledge, attitudes and barriers to cancer screening and control.[14,17] The following categories were included:

a) *Personal data: A*ge, sex, marital status, religion, degree of religious observance, country of medical training, academic position, years since graduation.
b) *Practice description:* Number, age, gender and education of patients, percentage of patients with cancer, workload, general accessibility, clinical standards.
c) *Knowledge about cancer screening:* Degree of agreement with statements on cancer control and risk factors. Items were rated as *true, don't know* or *false.*
d) *Perceived barriers – general:* Degree of agreement with statements concerning perceived barriers to cancer control and screening. Statements were divided into 4 categories: Related to physician's work environment; related to physician's attitudes; related to physician's knowledge; factors related to majority of physician's patients. Items were rated on a scale of 1 (*disagree*) to 5 (*agree*).
e) *Perceived barriers – specific:* Degree of agreement with a list of barriers related to specific screening tests. Item responses were *yes* or *no.*
f) *Satisfaction:* Degree of satisfaction with referral services for the majority of the physician's cancer patients. Items were rated on a scale of 1 (*not satisfied*) to 5 (*very satisfied*).
g) *Guidelines:* Degree of agreement with guidelines for early detection of cancer, requirements for registration, and notification of cancer patients. Items were rated on a scale of 1 (*disagree*) to 5 (*agree*).
h) Sources of updates on cancer: Checklist.
i) *Personal preventive care:* This section consisted of 5 *yes/no* items: smoking habit; keeps weight at right level; actively exercises at least twice a week; membership in sports club or group; dental check-up within the last year.

In Israel, items taken from the English language literature were translated into Hebrew by a member of our team and back-translated into English by another member. Those that did not match were retranslated until a perfect match was achieved. The final Hebrew version was tested in a pilot study on 10 general practitioners and 10 family physicians who were excluded from the main study. The Palestinian questionnaire was given in English.

Statistical analysis

The Israeli and Palestinian physician groups were compared by descriptive statistics. Owing to statistically significant differences in demographics and professional data between the Israeli and Palestinian physicians (see Table 1), separate group analyses were performed for the correlation between agreement with the statement "I often forget to indicate/perform screening tests for cancer on my asymptomatic patients" and the statement "Periodic physical examination of every asymptomatic patient is unnecessary" and physician characteristics and opinions. For this analysis, the 5 categories of agreement were collapsed into two: *agree* (consisting of agree and somewhat agree) and *disagree* (disagree and somewhat disagree). The original category *neutral* was excluded. We

also created a new variable, *overall care* derived from the responses to the 5 items in the category *personal preventive care* as follows: *none or slight* (0 or 1 *yes* response), *moderate* (2 *yes* responses), and *active care* (3 to 5 *yes* responses). Survey responses were analyzed with the SPSSWIN, Version 9.01b. Comparison of categorical variables was done with chi-square or Fisher's exact test. Comparisons of continuous data with a non-normal distribution were performed with analysis of variance with repeated measures and paired two-tailed t-test. A p value of 0.05 defined the statistical significance of differences between groups and was used to calculate confidence intervals around differences in sample means and odds ratios.

Table I

Demographic and professional characteristics of the two groups

Variable	Total pop.	Israeli physicians	Palestinian physicians	p Value
No. physicians	221	113	108	
Age (years) mean(SD)	221	47.1 (7.5)	39.1 (9.2)	< 0.001*
Years since graduation from medical school mean(SD)	218	21.2 (7.9)	11.9 (8.7)	< 0.001*
Gender N(%) Male Female	221 155 66	113 (51.1) 69 (61.1) 44 (38.9)	108 (49.9) 86 (79.6) 22 (20.4)	<0.005**
Marital status N(%) Married Other (single, divorced, widowed)	218 178 40	112 (51.4) 101 (90.2) 11 (9.8)	106 (48.6) 77 (72.6) 29 (27.4)	< 0.001**
Country/continent of birth N(%) Local (Israel or Palestine) Eastern Europe West Europe, Am, S.Africa, Australia Africa, Asia (rest)	209 130 51 14 14	112 (53.6) 39 (34.8) 51 (45.5) 14 (12.5) 8 (7.1)	97 (46.4) 91 (93.8) - - 6 (6.2)	< 0.001**
Specialist N(%) No Yes [Fam Med]	219 140 79	111 (50.7) 44 (39.6) 67 (60.4)	108 (49.3) 96 (88.9) 12 (11.1)	< 0.001**
Academic position N(%) No Yes	201 160 41	93 (46.3) 52 (55.9) 41 (44.1)	108 (53.7) 108 (100) -	< 0.001+

*t- test. ** χ^2 + Yates' corrected.
Data for 113 participants in Israeli group and 105 in the Palestinian group.

Results

Of the 144 Israeli physicians contacted, 114 (79.2%) completed the questionnaire and of the 120 Palestinian physicians contacted, 108 (90.0%) completed the questionnaire. Table I shows the demographic and professional characteristics of the two groups. Palestinian physicians tended to be younger and male, with fewer years of experience. More of the Israelis were specialists who held academic positions.

Tables II to V show the responses of the physicians to the statements presented in the questionnaire on obstacles to screening for cancer, as they relate to the physician's work environment, attitudes and knowledge, and to patient attitudes. Both populations of physicians agreed that their:

"practice of cancer screening is inhibited by time constraints", however, significantly more Palestinians (the majority) than Israelis believed that their.

"*practice of cancer screening is inhibited by lack of resources* (in general) *and equipment* (in particular)*"* ($p< 0.001$) (Table II).

Regarding the items related to physicians' attitudes (Table III), there was a high level of agreement with the statement:

"*It is difficult to practice preventive medicine for cancer"*, and "*A yearly health examination is important for the early detection of cancer"*.

The two groups also had a similar, intermediate, level of agreement with the statement:

"I often forget to indicate/perform screening tests for cancer on my asymptomatic patients".

Palestinian doctors showed a significantly higher level of agreement with the statement:

"False results serve as a reason for not recommending cancer screening" and with *"Pap-smear screening should be the patient's responsibility rather than the physician's"*.

In addition, Table III shows a neutral result in both groups for the statement:

"Periodic physical examination of every asymptomatic patient is unnecessary".

For all the statements related to physician knowledge (Table IV), there was a significantly higher level of agreement in the Palestinian than in the Israeli group ($p<0.001$). More Palestinians believed that:

"My inappropriate undergraduate education on caner screening is a major obstacle", "My inappropriate postgraduate education on cancer screening is a major obstacle", "More training in cancer screening and control is needed to enable physicians like me to perform cancer control duties", "I am not sure about how to implement cancer screening guidelines", and "I need a better approach or framework for cancer screening".

Almost all the items related to patient attitudes (Table V) revealed more difficult obstacles to screening in the Palestinian population. Some involved lack of resources and access to screening. For example, *"Risk of screening tests is a major obstacle"* was twice as strong a barrier ($p<0.001$) in the Palestinian than the Israeli population. One item, *"Discomfort with some screening tests is a major obstacle"* had similar weight in both populations.

Tables VI and VII showed that in both groups, responses to the statements:

"I often forget to indicate/perform screening tests for cancer on my asymptomatic patients" and *"Physical*

examination of every asymptomatic patient is unnecessary".

were not significantly correlated with the majority of the physician characteristics and opinions studied.

Discussion

Mayer and Beardall[18] established that physicians in primary care practice have the opportunity and potential to substantially influence the implementation of cancer care programs. In the present study, more Palestinian than Israeli physicians reported lack of equipment and resources for cancer screening. With regard to patient attitudes, the Palestinian group also reported high costs, poor access to screening test services, and lack of insurance reimbursement for screening tests. This can be explained by the different health care systems. In Israel, since 1995, the National Health Insurance[16] has covered the costs of all cancer screening tests.

Table II

Level of agreement with statements on barriers to cancer control and screening related to physician's work environment*

	Israeli physicians		Palestinian physicians		p Value (t test)
	Pop (N)	Mean score (±SD)	Pop (N)	Mean score (±SD)	
My practice of cancer screening is inhibited by inadequate medical records	109	2.1 (1.2)	106	.0 (1.4)	NS
My practice of cancer screening is inhibited by lack of equipment	112	2.5 (1.6)	108	3.9 (1.3)	< 0.001
My practice of cancer screening is inhibited by lack of resources	112	3.0 (1.6)	106	4.2 (1.1)	< 0.001
My practice of cancer screening is inhibited by time constraints	112	3.3 (1.6)	108	3.7 (1.3)	NS

*All items rated on scale of 1 (disagree) to 5 (agree).

Table III

Level of agreement with statements on barriers to cancer control and screening related to physician's attitudes*

	Israeli physicians		Palestinian physicians		p Value (t test)
	Pop (N)	Mean score (±SD)	Pop (N)	Mean score (±SD)	
A yearly health examination is important for the early detection of cancer	113	4.4 (1.2)	108	4.7 (0.9)	< 0.05
It is difficult to practice preventive medicine for cancer	113	3.5 (1.5)	108	3.3 (1.5)	NS
False results of screening tests is a reason for not recommending cancer screening	112	2.5 (1.5)	107	3.3 (1.5)	< 0.001
Pap-smear screening should be the patient's responsibility rather than the physician's	114	2.0 (1.3)	107	2.7 (1.5)	< 0.001
I often forget to indicate / perform screening tests for cancer on my asymptomatic patients	114	3.0 (1.6)	107	3.0 (1.5)	NS
Periodic physical examination of every asymptomatic patient is unnecessary	114	2.6 (1.7)	106	2.6 (1.5)	NS

*All items rated on scale of 1 (disagree) to 5 (agree).

Table IV

Level of agreement with statements on barriers to cancer control and screening related to physician's attitudes* (cont.)

	Israeli physicians		Palestinian physicians		p Value (t test)
	Pop (N)	Mean score (±SD)	Pop (N)	Mean score (±SD)	
Pap-smear screening should be the patient's responsibility rather than the physician's	114	2.0 (1.3)	107	2.7 (1.5)	< 0.001
I often forget to indicate / perform screening tests for cancer on my asymptomatic patients	114	3.0 (1.6)	107	3.0 (1.5)	NS
Periodic physical examination of every asymptomatic patient is unnecessary	114	2.6 (1.7)	106	2.6 (1.5)	NS

*All items rated on scale of 1 (disagree) to 5 (agree).

Table V

Level of agreement with statements on barriers to cancer control and screening related to patient attitudes*

	Israeli physicians		Palestinian physicians		p Value (t test)
	Pop (N)	Mean scor (±SD)	Pop (N)	Mean score (±SD)	
Many of my patients refuse cancer screening	114	2.6 (1.6)	108	3.1 (1.5)	< 0.05
Cost of screening is a major obstacle for many of my patients	114	2.2 (1.5)	108	3.8 (1.5)	< 0.001
Discomfort with some screening tests is a major obstacle	114	3.2 (1.5)	108	3.5 (1.5)	NS
Risk of screening tests is a major obstacle	114	1.8 (1.3)	107	3.2 (1.5)	< 0.001
Access to screening test services is a major obstacle	114	2.4 (1.5)	104	3.9 (1.2)	< 0.001
Many of my religious patients who are of the opposite sex do not agree with my physical examination of intimate parts of their body	113	3.3 (1.5)	108	4.0 (1.1)	< 0.001
Lack of insurance reimbursement for screening tests is a major obstacle	114	2.8 (1.6)	108	4.2 (1.2)	< 0.001

*All items rated on scale of 1 (disagree) to 5 (agree).

Table VI

Correlation between physicians agreement with statement "I often forget to indicate/perform screening tests for cancer on my asymptomatic patients" and physician characteristics and opinions by group

Physician characteristics and opinions	"I often forget to indicate/perform screening tests for cancer on my asymptomatic patients"					
	Israeli physicians			Palestinian physicians		
	Disagree	Agree	p Value	Disagree	Agree	p Value
Gender						
Male	25 (40.3)	37 (59.7)	NS	33 (46.5)	38 (53.5)	NS
Female	17 (42.5)	23 (57.5)		11 (61.1)	7 (38.9)	
Yrs since grad. (MD) mean(SD)	22 (8.4)	20 (7.1)	NS	13 (8.4)	11 (8.2)	NS
Academic position						
No	15 (33.3)	30 (66.7)	NS	NR	NR	NR
Yes	17 (44.7)	21 (55.3)		NR	NR	NR
"I need better access to guidelines"						
Disagree	4 (28.6)	10 (71.4)		-	1 (100.0)	
Neutral	4 (50.0)	4 (50.0)	NS	4 (50.0)	4 (50.0)	NS
Partially agree	20 (51.3)	19 (48.7)		8 (53.3)	7 (46.7)	
Completely agree	14 (35.0)	26 (65.0)		32 (49.2)	33 (50.8)	
"There is a need for better access to training and educational programs"						
Disagree	5 (55.6)	4 (44.4)		2 (100)	-	
Neutral	3 (25.0)	9 (75.0)	NS	1 (50.0)	1 (50.0)	NS
Partially agree	8 (38.1)	13 (61.9)		6 (46.2)	7 (53.8)	
Completely agree	26 (44.1)	33 (55.9)		35 (48.6)	37 (51.4)	
Satisfaction with communication with cancer specialists						
Not or slightly satisfied	10 (37.1)	17 (62.9)		27 (47.4)	30 (52.6)	
Moderately satisfied	11 (42.3)	15 (57.7)	NS	7 (53.8)	6 (46.2)	NS
Quite or very satisfied	22 (44.9)	27 (55.1)		9 (50.0)	9 (50.0)	
Satisfaction with communication with hospital cancer wards/centers						
Not or slightly satisfied	13 (42.9)	20 (57.1)		24 (39.5)	34 (60.5)	
Moderately satisfied	9 (31.0)	20 (69.0)	NS	9 (69.2)	4 (30.8)	NS
Quite or very satisfied	21 (51.9)	19 (48.1)		9 (72.7)	5 (27.3)	
Overall index of personal preventive care						
None or slight	8 (25.8)	23 (74.2)		19 (54.3)	16 (45.7)	
Moderate	12 (46.2)	14 (53.8)	NS	10 (41.7)	14 (58.3)	NS
Active	21 (48.8)	22 (51.2)		15 (50.0)	15 (50.0)	

Note: Data for 113 participants in Israeli group and 105 in the Palestinian group.
All values are N(%). NR = not relevant

In the Palestinian Authority, the population is under the care of the Ministry of Health because they cannot afford private health systems. Moreover, the population suffers particularly from serious social and economic limitations (almost 50% are unemployed) consequent to the Israeli-Palestinian conflict. Both groups complained of lack of time.

Interestingly, despite their differences in demographic and professional characteristics, both the Israeli and Palestinian doctors showed the same inconsistency regarding their belief in the importance of early screening for cancer prevention (scores 4.4 and 4.7, respectively) and their failure to refer asymptomatic patients for screening tests (*I often forget to indicate/perform screening tests for cancer on my asymptomatic patients"*, mean score 3.0 for both groups*; Periodic physical examination of every asymptomatic patient is unnecessary"*, mean score 2.6 for both groups*).*

Besides the possible role of lack of resources in failure to screen asymptomatic patients in the Palestinian Authority, this finding may also be explained by the similar agreement in both groups that they lack appropriate training and education in this area (i.e., *"More training in cancer screening and control is needed to enable physicians like me to perform cancer-control duties", "I am not sure how to implement cancer screening guidelines", and "I need a better approach or framework for cancer screening").*

This confirms previous reports suggesting the need for more continuing medical education programs for primary care physicians with an emphasis on cancer control and prevention, in order to decrease the barriers to screening.[12,19,20] We suggest, in addition, that education programs should introduce the use of routine standardized forms oriented towards primary and secondary prevention of cancer in primary care practices to help physicians include more patients in preventive activities. Clearly, for any of these programs to be successful, adequate resources and widespread support must be provided to both medical practices and institutions.

Negative or passive patient attitudes may be countered by an active attitude of physicians toward cancer screening.[21] For example, Giveon and Kahan[22] reported that special reminders on mammographic surveillance from family physicians not only significantly alter patient behavior, they also ensure physicians that their patients have been properly instructed. At the same time, patient education helps compensate for the occasional reluctance of physicians to discuss cancer screening.[19] Cohen et al,[23] in a study of a large sample of patient-physician encounters, found that 25% of all medical investigations requested by patients and not by physicians were for disease prevention, and that such requests were highly correlated with the level of patient education.

In accordance with previous reports on cultural barriers to cancer screening,[2,9,10] in the present study, both populations reported a high rate of patient discomfort with some screening tests and a reluctance by some religious patients to undergo examination by physicians of the opposite sex. This is an important factor for medical educators and health providers to consider during planning of cancer screening programs, especially for -- breast, gynecological, prostate and colorectal cancer. Although nonresponse bias is a persistent limitation of survey studies,[24] the 79.2% and 90.0% compliance rates in the Israeli and Palestinian groups, respectively, was satisfactory.

In conclusion, the study suggests that there remain gaps in many areas of cancer screening that call for extensive programs in physician and patient education, in addition to greater allocation of resources, dissemination of guidelines, and adaptation of services. As the problems highlighted by this study are not limited to the Middle East, we suggest that similar investigations be undertaken in different regions and among different populations and cultural and ethnic groups.

Table VII

Correlation between physicians agreement with statement "Periodical physical examination of every asymptomatic patient is unnecessary" and physician characteristics and opinions by group

Physician characteristics and opinions	"Physical examination of every asymptomatic patient is unnecessary"					
	Israeli physicians			Palestinian physicians		
	Disagree	Agree	p Value	Disagree	Agree	P Value
Gender						
Male	36 (60.0)	24 (40.0)	NS	49 (65.3)	26 (34.7)	NS
Female	23 (56.1)	18 (43.9)		11 (61.1)	7 (38.9)	
Yrs since grad. (MD) mean(SD)	23 (7.7)	19 (6.8)	.003	10 (8.2)	15 (8.4)	.010
Academic position						
No	20 (45.5)	24 (54.5)	.046	NR	NR	NR
Yes	26 (68.4)	12 (31.6)		NR	NR	NR
"I need better access to guidelines"						
Disagree	7 (50.0)	7 (50.0)		1 (100)	-	
Neutral	7 (87.5)	1 (12.5)	NS	8 (72.7)	3 (27.3)	NS
Partially agree	21 (55.3)	17 (44.7)		5 (38.5)	8 (61.5)	
Completely agree	24 (60.0)	16 (40.0)		46 (67.6)	22 (32.4)	
"There is a need for better access to training and educational programs"						
Disagree	7 (70.0)	3 (30.00		2 (100)	-	
Neutral	6 (54.5)	5 (45.5)	NS	2 (100)	-	NR
Partially agree	13 (59.1)	9 (40.9)		9 (69.2)	4 (30.8)	
Completely agree	33 (57.9)	24 (42.1)		47 (61.8)	29 (38.2)	

Table VII (Cont.)

Correlation between physicians agreement with statement "Periodical physical examination of every asymptomatic patient is unnecessary" and physician characteristics and opinions by group

Physician characteristics and opinions	"Physical examination of every asymptomatic patient is unnecessary"					
	Israeli physicians			Palestinian physicians		
	Disagree	Agree	p Value	Disagree	Agree	p Value
Satisfaction with communication with cancer specialists						
Not or slightly satisfied	19 (76.0)	6 (24.0)		39 (66.1)	20 (33.9)	
Moderately satisfied	12 (48.0)	13 (52.0)	NS	8 (61.5)	5 (38.5)	NS
Quite or very satisfied	29 (56.9)	22 (43.1)		13 (65.0)	7 (35.0)	
Satisfaction with communication with hospital cancer wards/centers						
Not or slightly satisfied	21 (70.0)	9 (30.0)		39 (62.9)	23 (37.1)	
Moderately satisfied	13 (44.8)	16 (55.2)	NS	12 (85.7)	2 (14.3)	NS
Quite or very satisfied	26 (61.9)	16 (38.1)		7 (50.0)	7 (50.0)	
Overall index of own personal care						
None	15 (55.6)	12 (44.4)		23 (65.7)	12 (34.3)	
Moderate	15 (51.7)	14 (48.3)	NS	16 (64.0)	9 (36.0)	NS
Active	27 (62.8)	16 (37.2)		21 (63.6)	12 (36.4)	

Note: Data for 113 participants in Israeli group and 105 in the Palestinian group.
Note: All values are N(%) except years since graduation.
NR = not relevant

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