

The Jordanian primary healthcare practitioner in cancer control

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Aim: To measure the knowledge, perceptions, and practices of Jordanian primary healthcare practitioners (PHCPs) (physicians, nurses, midwives, and nurse aids) employed in Jordanian Ministry of Health (MoH) primary health clinics with respect to counseling on cancer (cancer screening, the signs and symptoms of cancer, and referral for specialized care). **Background:** Integration of oncology services within primary care is a means of enhancing cancer early detection, and requires involvement of skilled. In the Middle East, little is known about PHCPs' potential to be providers of such services. **Methods:** A questionnaire measuring PHCP perceptions and practices related to counseling on cancer screening and diagnosis was distributed to PHCPs across MoH clinics covering the main regions of Jordan. **Findings:** A total of 322 practitioners responded (75.1% response). Across most activities involving cancer detection, no more than 30% reported performing activities. Roughly half of PHCPs expressed discomfort at providing cancer-related counseling and at least 43% of non-physicians expressed limited confidence in cancer-related counseling. Confidence was a consistent predictor of provision of counseling and confidence in turn was associated with having greater knowledge, having positive a valuation of counseling, and being a physician. Results reveal points where educational efforts can strengthen PHCPs' provision of cancer control-related services.

Key words: cancer; healthcare providers; perceptions; practices; primary care

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Introduction

Primary healthcare practitioners (PHCPs) offer a cost-effective means of managing the growing global burden of non-communicable disease (World Health Organization, 2008), and specifically in the context of cancer control, there is a heightened call to integrate various components of cancer prevention and care within primary healthcare systems (Sussman and Baldwin, 2010; Emery *et al.*, 2014; Rubin *et al.*, 2015). Oncology primary care can be a multi-professional effort distributed among physicians, nurses, midwives,

and allied health professionals, and can encompass cancer prevention (promoting healthy lifestyles, availing the appropriate vaccinations, treating infections); ensuring screening of amenable cancers; inquiring about family history of cancer and managing patients accordingly; and knowing as well as handling the possible signs and symptoms of cancer in order to avoid diagnostic and referral delays (Rose *et al.*, 2013; Rubin *et al.*, 2015).

Jordan in the Middle East is an upper-middle income country facing tremendous challenges: a growing population of young residents (and an impending healthcare burden as they age), as well as a high influx of refugees, have led to a straining of the country's healthcare resources (Carnegie Endowment for International Peace, 2015). In addition, cancer control in Jordan has yet to be integrated within a cohesive healthcare system that can provide

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holistic cancer care, and PHCPs are neglected in their potential to contribute toward cancer control (Abdel-Razeq *et al.*, 2015). However, before advocating for a more prominent role for PHCPs (both physicians and non-physicians) in cancer control, customized pathways and guidelines for integrating cancer care will need to be developed. These in turn require a preliminary understanding of the current status of primary healthcare in the country as it relates to cancer, and thus the potential of this sector to assume an effective role in cancer control.

Jordan's national (public) primary healthcare system is a subsidized one offered through the Jordanian MoH (World Health Organization, 2006). The MoH's primary healthcare system is the first point of access to the healthcare system for a substantial proportion of Jordanians [it is the largest insurer in the country (Jordanian Department of Statistics, 2015)] and is comprised of three types of clinics categorized by the specialty of physicians available to provide primary healthcare: those that provide preventive and curative services through both general practitioners and specialists (98 clinics in 2015, also known as 'comprehensive' clinics), those that provide preventive and curative services through largely general practitioners (377 clinics, also known as 'primary' clinics), and those that provide basic ancillary services (these are known as village health clinics or sub-centers, and are not equipped to provide comprehensive primary care, nor is a physician consistently available in them) (World Health Organization, 2006; Jordanian Ministry of Health, 2015a). Only in the event of a need for advanced diagnostic or treatment interventions are patients referred to tertiary care. The MoH is the largest source of healthcare insurance among insured Jordanians (42% report this as their source of insurance), and is particularly critical in economically disadvantaged areas on Jordan, where proportions of insured Jordanians can reach 90%, largely through public health insurance (Jordanian Department of Statistics, 2015). As of 2015, Jordan's primary healthcare clinics operated through 147 specialist physicians, 1335 general practitioners, and 2929 nurses, midwives, and nurse assistants or aids (Jordanian Ministry of Health, 2015b).

Jordan's primary healthcare clinics, through their general practitioners, nurses, and midwives, should be a viable means of providing cancer-related

services, particularly services that promote early detection and thus markedly improve the prognosis of a cancer diagnosis. However, recent studies indicate that early detection of cancer remains an issue: for example, among Jordanian colorectal cancer patients, 33.9% suffered from a delay in presentation while 68.1% suffered a diagnosis delay (Abu-Helalah *et al.*, 2016); furthermore, only 16.8% of women in Jordan reported being examined for breast cancer by a physician (Abu-Helalah *et al.*, 2015); finally, only roughly a third of Jordanians have ever been informed (by persons, or through media or self-reading) that they needed to be screened for cancer, although the majority (75%) preferred to be informed about this through healthcare providers (Ahmad *et al.*, 2015). There is thus a need to ensure that PHCPs are more engaged in raising the issue of early detection with the patients they serve.

In light of the above, we aimed to gain a better understanding of the knowledge, perceptions, and practices of Jordanian PHCPs (physicians, nurses, midwives, and nurse aids) employed in MoH clinics with respect to counseling on cancer (cancer screening, the signs and symptoms of cancer, and referral for specialized care). Our results can be used to directly inform the planning of cancer control interventions targeting practitioners at the primary care level, and can provide insight to others in the region seeking to do likewise. We specifically studied knowledge of the most common cancers in Jordan [breast, colorectal, and lung (Jordan Cancer Registry, 2013)]; practices as they pertain to inquiring about the signs and symptoms of these cancers and about family history of cancer; perceptions with respect to counseling on the signs and symptoms of cancer; and barriers to counseling patients on cancer early detection. We were particularly interested in including both physicians and non-physicians in our study, given the larger number of the latter in Jordan's MoH clinics and their potential as healthcare providers and educators to share the distribution of efforts with physicians.

Methods

Ethical review

The study was reviewed and approved by the Institutional Review Board at King Hussein Cancer Center.

Setting and sample

A purposive sample representing primary healthcare clinics in Jordan and covering the three main regions of the country (North, Central, South) was selected by the Jordanian MoH. Data collection was conducted between February and March of 2014, with surveys being distributed to all practicing PHCPs.

Questionnaire

An Arabic questionnaire based on the social cognitive theory (Bandura, 2004) and informed by other studies that evaluated professional practices in the area of cancer-related counseling (National Cancer Institute, 2006; Sewitch *et al.*, 2006; Levy *et al.*, 2008; Simon *et al.*, 2012) was developed. The final questionnaire was customized to the local primary healthcare environment in Jordan and covered key practices and knowledge items that were both feasible and of relevance to Jordanian PHCPs, and referred to Jordan's most commonly occurring cancers (breast and colorectal in women; and lung and colorectal in men).

Physicians and allied health staff working in the Jordanian MoH as well as King Hussein Cancer Center reviewed the final questionnaire to ensure its content validity, and the tool was piloted in one primary healthcare clinic. The final questionnaire consisted of two main components: provider-reported knowledge, attitudes, and practices pertaining to healthy lifestyle counseling (focusing on cancer prevention) and provider-reported knowledge, attitudes, and practices pertaining to counseling on the perceived burden and early signs and symptoms of the most prevalent cancers in Jordan. The current study focuses on the latter component, and descriptions of the sections covering this component are therefore included below.

- Practices: practitioners were asked to estimate, among patients 18 years of age or older visiting the clinic in the past two months, the percentage for whom several actions were performed. Actions included: inquiring about the signs and symptoms of breast, lung, and colorectal cancer; inquiring about a patient's family history of cancer, and providing recommendations with respect to cancer screening. In addition, responses were further categorized during analysis as binary outcomes: whether or not each

activity was performed on the majority – 70% or more – of adult patients.

- Perceptions: level of agreement (on a five-point scale) with statements on counseling on the signs and symptoms of cancer (perceived role, value, and outcome expectancies). Responses to these variables were dichotomized during analysis to reflect whether or not the respondent had perceptions that would be potentially detrimental to cancer control counseling (ie, proportions of PHCPs who agreed or were neutral to negative statements regarding counseling and proportions of PHCPs who disagreed or were neutral to positive statements on counseling).
- Perceived confidence (on a five-point scale) to counsel on the signs and symptoms of cancer (breast, colorectal, and lung); to provide counseling on screening tests for breast and colorectal cancer; to provide counseling on the basic principles of cancer treatment; and to provide counseling with respect to how patients can further access the healthcare system for specialized screening or diagnostic tests. Responses to these variables were also dichotomized during analysis (confident or highly confident, versus all other responses).
- A general section probing barriers to counseling patients on cancer prevention and early detection was included. Various factors (practitioner-related, patient-related, system-related) were listed and practitioners rated each (major barrier, moderate barrier, not a barrier).
- Knowledge of the most common cancers in Jordan, and knowledge with respect to the signs and symptoms of breast, colorectal, and lung cancer (by listing various signs and symptoms and instructing respondents to select those they knew to be signs and symptoms). Specifically, 11, 11, and 10 signs and symptoms were listed for breast, colorectal, and lung cancer, respectively.
- A section measuring practitioners' demographic and professional characteristics.

The reliability of the questionnaire was also confirmed (Cronbach's $\alpha = 0.80$).

Statistical analysis

Descriptive statistics were generated to present the characteristics of the sample, and the

knowledge levels, perceptions, and practices of PHCPs with respect to various elements of cancer detection.

We were interested in using our results to inform future efforts to promote among PHCPs the task of counseling – at the very least – on signs and symptoms of the main cancers in Jordan. We aimed to identify factors that were associated with being a PHCP that provided such counseling, and accordingly offer guidance with respect to how to enhance positive factors and minimize deterring factors. We therefore used multivariate regression analyses to further probe the factors that were associated with three main outcomes: the reported percentage of patients provided with counseling on the signs and symptoms of breast cancer, the reported percentage of patients provided with counseling on the signs and symptoms of colorectal cancer, and the reported percentage of patients provided with counseling on the signs and symptoms of lung cancer. Co-variables that were examined included demographic and professional characteristics such as sex, age, being a physician (versus non-physician PHCP), working within a primary clinic or a comprehensive one, geographic region of clinic; behavioral variables that are in theory associated with performing an action (reporting confidence to provide counseling, having a positive valuation of counseling, and expectancies that PHCPs associate with counseling); and knowledge of each cancer site's signs and symptoms (operationalized as the number of signs and symptoms identified) (Bandura, 2004). The results were adjusted for the clustering effects within clinics.

All analyses were carried out using STATA SE 12.1.

Results

Sample characteristics

A total of 322 PHCPs (218 non-physicians, mean age 35.4 years; 104 physicians, mean age 42.7 years) working in 20 clinics distributed across the country completed the survey (75.1% response rate). Non-physicians were largely (85.3%) women, while physicians were largely (72.3%) male.

Current practices

Reported frequencies of various activities related to counseling on the early detection of cancer

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are included in Figure 1. Approximately 50% of physicians reported inquiring about family history of cancer to the majority of their patients. Across all other listed activities, no more than roughly 30% reported providing the activity to the majority of their patients.

Perceptions

Perceptions were analyzed and presented as those likely to be uncondusive to counseling on cancer (Table 1). When asked about the value of counseling on the signs and symptoms of cancer, the majority (at least 80%) of practitioners perceived value in providing this. However, ~55% of practitioners believed that their counseling on cancer detection would scare patients, while roughly a quarter did not perceive their counseling would lead to detection of cancers at earlier stages. Almost half expressed discomfort at providing such counseling. With respect to perceived role, more respondents perceived counseling on cancer early detection to be the physician's role. Particularly among nurses, substantial (at least 43%) proportions expressed limited confidence in providing counseling on signs and symptoms of the cancers listed, and counseling on maneuvering the healthcare system when dealing with a possible cancer diagnosis (approximately a third of physicians also expressed this limited confidence).

Knowledge

The majority of PHCPs could correctly state the most common cancer in females in Jordan (breast). The most common cancers in males were identified as lung (by physicians) and prostate (by non-physicians). With respect to identification of signs and symptoms of each cancer site (11 breast cancer signs, 11 colorectal signs, and 10 lung cancer signs), the average numbers of correctly identified signs and symptoms were as follows for non-physicians and physicians: 7.4 and 7.5 for breast cancer, 6.4 and 7.5 for colorectal cancer ($P < 0.05$), and 6.2 and 6.9 for lung cancer ($P < 0.05$).

When asked to identify the screening tests that PHCPs would recommend to average-risk patients older than 50 years of age, variation in practitioners' knowledge with respect to what tests were relevant was observed. For example,

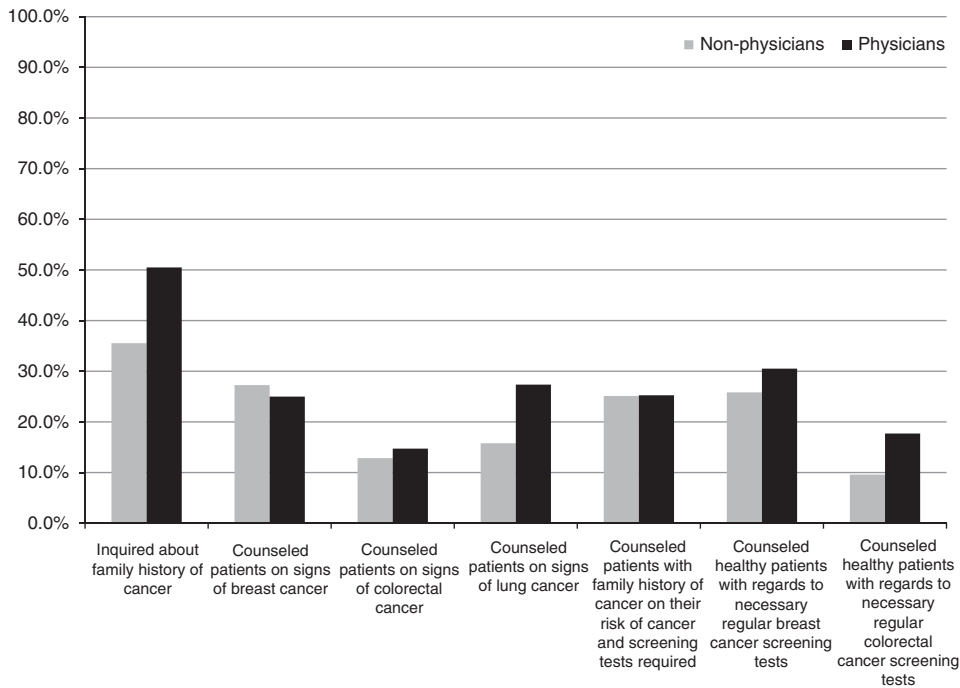


Figure 1 Provision of counseling on early detection of cancer with adult patients (older than 18 years of age) over the past two months within primary healthcare clinics in Jordan (proportions reporting providing counseling to 70% or more of patients presented)

the majority (at least 70%) of practitioners recommended self and clinical breast exams, ~71% recommended colonoscopies, and ~64% recommended fecal occult blood test. Chest X-rays and Digital Rectal Exams were also recommended (roughly 69 and 55%) by a notable proportion of practitioners.

Barriers

The most frequently reported barriers pertinent to counseling on cancer early detection included environmental or system barriers ('insufficient staff support,' 'work environment is taxing and deters counseling,' 'not enough resources like leaflets,' and 'not having enough information'). To a somewhat lesser extent, competing patient needs, patients not perceiving themselves susceptible to cancer, and patients being fatalistic about developing cancer were also reported as major barriers (by approximately a third of practitioners).

Multivariate analyses of current practices

Factors associated with the provision of counseling varied with the site of cancer (Table 2). However, reporting high confidence in counseling was a consistently significant predictor of provision of counseling (on signs and symptoms of cancer) to a greater percentage of patients. Furthermore, being a male PHCP was associated with a lower reported frequency of counseling on breast cancer, while being a physician was associated with a higher reported frequency of counseling on lung cancer.

Due to the consistent effect of reported confidence, we also probed factors that were associated with high perceived confidence among PHCPs (Table 2). Although these varied by site, notable factors that were associated with a greater likelihood of being confident in the provision of counseling on signs and symptoms of cancer included being a physician, having greater knowledge of the signs and symptoms of cancer, male sex, associating counseling with a feeling of

Table 1 Perceptions of provision of counseling on early detection of cancer among practitioners in primary healthcare clinics in Jordan (proportions presented)

Statement	Non-physicians	Physicians
Disagree/neutral that 'counseling patients on early detection of cancer will result in better patient care'	21 (9.8%)	7 (6.8%)
Disagree/neutral that 'counseling patients on early detection of cancer will result in patients becoming more informed with regards to their health'	14 (6.6%)	6 (6.0%)
Agree/neutral that 'counseling patients on early detection of cancer will frighten patients'	123 (58.0%)	56 (54.9%)
Disagree/neutral that 'counseling patients on early detection of cancer will result in a higher proportion of cancers being detected at earlier stages'	64 (29.8%)	25 (24.3%)
Disagree/neutral that 'counseling patients on early detection of cancer will result in a greater number of cancers cases'	82 (38.5%)	18 (18.0%)
Agree/neutral about feeling 'uncomfortable providing counseling on early detection of cancer'	105 (50.0%)	46 (44.2%)
Disagree/neutral that 'counseling patients on early detection of cancer gives a feeling of self-respect and self-satisfaction'	40 (19.1%)	13 (13.0%)
Disagree/neutral that 'counseling patients on early detection of cancer should be the physician's role' ^a	65 (30.2%)	17 (16.4%)
Agree/neutral that 'counseling patients on early detection of cancer should be the nurse's role'	100 (47.4%)	59 (57.8%)
Disagree/neutral that 'physicians in clinic should receive more training on early detection of cancer'	9 (4.2%)	8 (7.8%)
Disagree/neutral that 'nurses in clinic should receive more training on early detection of cancer'	16 (7.4%)	8 (7.7%)
Limited or moderate value to counseling on early signs and symptoms of cancer	34 (15.8%)	20 (20.2%)
Limited or moderate confidence asking about patient's family history of cancer and other diseases associated with cancer	73 (33.6%)	28 (27.7%)
Limited or moderate confidence counseling patients on signs of breast cancer ^a	95 (45.0%)	25 (25.0%)
Limited or moderate confidence counseling patients on signs of colorectal cancer ^a	135 (63.7%)	28 (27.5%)
Limited or moderate confidence counseling patients on signs of lung cancer ^a	130 (61.0%)	32 (31.4%)
Limited or moderate confidence counseling patients with family history of cancer on their risk of cancer and required regular screening tests ^a	119 (55.6%)	29 (28.4%)
Limited or moderate confidence counseling patients on the necessary regular breast cancer screening tests	90 (42.7%)	35 (34.0%)
Limited or moderate confidence counseling patients on the necessary regular colorectal cancer screening tests ^a	135 (63.7%)	41 (40.2%)
Limited or moderate confidence counseling patients about accessing the healthcare system for further diagnostic testing for cancer detection ^a	113 (52.6%)	35 (34.0%)
Limited or moderate confidence counseling patients on accessing healthcare system to receive cancer treatment ^a	126 (58.6%)	40 (38.8%)
Limited or moderate confidence counseling patients on basic principles of cancer treatment ^a	133 (61.6%)	37 (35.9%)

^a Significant χ^2 statistic ($P < 0.05$) when comparing physicians with non-physicians.

professional self-respect, and perceiving such counseling to be a highly valuable intervention.

Discussion

We explored the potential of PHCPs as viable resources for counseling patients on cancer. Our study shows low cancer control-related counseling rates, and highlights various perceptions as well as knowledge deficits that should be improved if cancer control integration within the primary healthcare system in Jordan is to be discussed.

Practitioners in our sample reported some discomfort (and notable proportions also reported limited confidence) in discussing cancer-related topics with patients. Furthermore, knowledge gaps and limited confidence (relating to being able to identify the signs and symptoms of cancer, being able to distinguish and recommend effective screening tests, and being able to counsel patients on further cancer care) were deciphered. Given that counseling on cancer prevention and early detection should entail extensive knowledge of such topics (Rubin *et al.*, 2015), the knowledge gaps detected at the level of the survey – which probed knowledge at

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Table 2 Multivariate regressions to assess factors associated with providing counseling on signs and symptoms of three cancers (breast, colorectal, lung) and factors associated with reported confidence to counsel among practitioners in primary healthcare clinics in Jordan

Factors associated with reported percentage of patients counseled on signs and symptoms of breast, colorectal, or lung cancer	Breast: coefficient (P-value)	Colorectal: coefficient (P-value)	Lung: coefficient (P-value)
Age of practitioner	0.016 (0.94)	0.18 (0.37)	0.13 (0.44)
Working in a comprehensive clinic (versus primary one)	-3.1 (0.63)	2.7 (0.53)	5.1 (0.31)
Clinic North of Jordan (versus Central region)	3.9 (0.54)	6.3 (0.18)	8.3 (0.13)
Clinic South of Jordan (versus Central region)	5.6 (0.38)	5.8 (0.27)	1.2 (0.77)
Physician (versus a nurse, midwife, nurse aid)	3.0 (0.41)	-0.66 (0.84)	7.9 (0.048)*
Male gender	-11.1 (0.008)*	4.3 (0.09)	4.4 (0.25)
Reporting high confidence in providing site-specific counseling	16.1 (0.000)*	22.0 (0.000)*	14.9 (0.000)*
Number of signs and symptoms correctly identified for each cancer site	0.19 (0.79)	0.11 (0.85)	-0.19 (0.98)
Belief that counseling will improve patient care	-0.31 (0.96)	-3.0 (0.63)	-6.2 (0.45)
Belief that counseling will frighten patient	0.84 (0.816)	1.5 (0.65)	4.2 (0.30)
Belief that counseling leads to earlier diagnosis	2.4 (0.65)	-5.7 (0.10)	-5.0 (0.30)
Belief that counseling gives a feeling of self-respect	-2.9 (0.47)	2.8 (0.47)	0.54 (0.90)
Overall valuation of counseling is positive	-1.0 (0.83)	-3.4 (0.52)	2.8 (0.59)
Factors associated with having high confidence in providing counseling on signs and symptoms of breast, colorectal, or lung cancer	Breast: odds ratio (P-value)	Colorectal: odds ratio (P-value)	Lung: odds ratio (P-value)
Age of practitioner	1.01 (0.55)	1.01 (0.30)	1.01 (0.53)
Working in a comprehensive clinic (versus primary one)	0.60 (0.12)	1.00 (0.996)	0.87 (0.66)
Clinic North of Jordan (versus Central region)	1.16 (0.57)	1.88 (0.064)	1.32 (0.50)
Clinic South of Jordan (versus Central region)	1.13 (0.69)	0.900 (0.84)	1.17 (0.74)
Physician (versus a nurse, midwife, nurse aid)	3.16 (0.005)*	2.94 (0.04)*	2.22 (0.09)
Male sex	0.71 (0.27)	1.82 (0.023)*	1.61 (0.17)
Number of signs and symptoms correctly identified for each cancer site	1.15 (0.022)*	1.03 (0.42)	1.20 (0.000)*
Belief that counseling will improve patient care	1.18 (0.78)	0.61 (0.46)	1.44 (0.55)
Belief that counseling will frighten patient	0.83 (0.60)	0.93 (0.83)	0.790 (0.48)
Belief that counseling leads to earlier diagnosis	0.87 (0.69)	1.60 (0.23)	1.04 (0.90)
Belief that counseling gives a feeling of self-respect	1.80 (0.13)	2.05 (0.04)*	2.89 (0.012)*
Overall valuation of counseling is positive	4.47 (0.000)*	2.54 (0.021)*	2.26 (0.020)*

* Significant values are asterisked.

a very basic level – reflect a great need for practitioner education. Furthermore, barriers that were noted by practitioners reiterate the need to approach the integration of cancer-related initiatives in primary care with a broader perspective of the primary healthcare system and system-level changes that need to be addressed in order to facilitate such integration.

Our multivariate analyses show perceived confidence to be a consistent predictor of provision of counseling. In turn, being a confident PHCP was associated with having greater knowledge, being a physician, and being a PHCP who valued counseling. These results further support the need for educational activities that can target PHCPs and increase knowledge as well as change perceptions

with respect to the value of counseling, with the hopes of also equalizing level of confidence across physician and non-physician PHCPs. Our recommendations are in line with what others have called for in the Middle East (Silbermann *et al.*, 2013), and educational initiatives should be interactive and preferably coupled with additional measures such as audits and feedback in order to achieve a greater effect (Mansell *et al.*, 2011; Schichtel *et al.*, 2013).

On a policy-related level, the results of the study indicate incongruous cancer control efforts in the country. While in select elements of cancer control, Jordan has managed to make progress [eg, having a breast cancer screening program that includes mammography and having a specialized

cancer center serving the country (Abdel-Razeq *et al.*, 2015)], cancer screening and early diagnosis efforts at the primary healthcare level are lagging.

The finding that Jordanian PHCPs have yet to fulfill their role as knowledgeable and confident healthcare gatekeepers that can decipher and communicate the early signs and symptoms of major cancers, and provide basic information to patients with respect to navigating the healthcare system for further care, is critical. While several advances across the cancer control continuum have been made, improved cancer prevention and early diagnosis are fundamental to these advances and need to be addressed at the primary care level. The appeal of preparing PHCPs to be more involved in cancer control stems from the fact that, as the first (and often continued) point of contact for substantial proportions of the global population, they are at a focal point to enhance prevention and early diagnosis efforts (Rubin *et al.*, 2015). While some challenges present with respect to involving PHCPs in cancer control [eg, lack of clear delineation of responsibilities in the context of cancer control, credibility and reliability of PHCPs – as perceived by patients – to engage in cancer-related services, lack of systems support to facilitate cancer screening and early diagnosis efforts by PHCPs, lack of timely provision of up-to-date and evidence-based information for PHCPs, shortage of PHCPs skilled in cancer control, and the need for much better coordination between PHCPs and cancer specialists (Rose *et al.*, 2013)], engagement of PHCPs cannot be overlooked as a viable and key point of entry to cancer control (Rubin *et al.*, 2015). The results of our study directly address the potential for PHCPs and are one way of beginning the dialogue about PHCPs and their role in cancer control.

Our study has some limitations. We did not probe the full scope of possible cancer prevention and early detection services, since, realistically, these could not all be covered in a single survey. Rather, our approach was simple and sought at a basic level to demonstrate the general level of preparedness of practitioners in a high-middle-income Middle Eastern country. Nevertheless, even at this level, our results suggest deficits in provision of appropriate patient counseling and indicate knowledge-related and attitudinal barriers that can hinder Jordanian PHCPs' provision of cancer control-related

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services. Our results are valuable in that they provide insight with respect to specific areas to focus on in order to guide professional educational efforts. Such efforts will lead to better educated and more empowered PHCPs, in turn translating into improved patient care.

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Conflicts of Interest

None.

Ethical Standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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