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Waris Qidwai

Aga Khan University, waris.qidwai@aku.edu

Kashmira Nanji

Aga Khan University, kashmira.nanji@aku.edu

Tawfik A M Khoja

Salman Rawaf

Nabil Yasin Al Kurashi

See next page for additional authors

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Authors

Waris Qidwai, Kashmira Nanji, Tawfik A M Khoja, Salman Rawaf, Nabil Yasin Al Kurashi, Faisal Alnasir, Mohammed Ali Al Shafae, Mariam Al Shetti, Muntazar Bashir, Nagwa Eid Sobhy Saad, Sanaa Alkaisi, Wafa Halasa, Huda Al l-Duwaisan, Amal Al - Ali, and Taghreed M. Faraha

Health Promotion, Disease Prevention and Periodic Health Checks: Perceptions and Practice among Family Physicians in Eastern Mediterranean Region

Waris Qidwai (1)
Kashmira Nanji (1)
Tawfik A M Khoja (2)
Salman Rawaf (3)
Nabil Yasin Al Kurashi (4)
Faisal Alnasir (5)
Mohammed Ali Al Shafae (6)
Mariam Al Shetti (7)
Muntazar Bashir (8)
Nagwa Eid Sobhy Saad (9)
Sanaa Alkaisi (10)
Wafa Halasa (11)
Huda Al-Duwaisan (12)
Amal Al-Ali (13)
Taghreed M Farahat (14)

(1) Department of Family Medicine, Aga Khan University, Karachi, Pakistan

(2) Director General, Executive Board, Health Ministers' Council for Cooperation Council States

(3) Professor of Public Health, Director, WHO Collaborating Centre, Department of Primary Care and Public Health, School of Public Health, Faculty of Medicine Imperial College London, UK

(4) University of Dammam, Saudi Arabia

(5) Department of Family & Community Medicine, Arabian Gulf University, Bahrain

(6) Vice Dean for Clinical Affairs, Oman Medical College, Sultanate of Oman

(7) Family Physician, Bahrain

(8) Department of Family Medicine, King Faisal Specialist Hospital and Research Centre, Jeddah, Saudi Arabia

(9) Department of Family Medicine, Cairo University, Egypt

(10) Associate Professor of Community and Family Medicine. Senior Consultant Family Physician. Dubai

(11) Family Physician, Amman, Jordan

(12) Head of the Primary Health Care Faculty at the Kuwait Institution for Medical Specialization.

(13) Assistant Program Director in Family Medicine Residency Program, Qatar.

(14) Chair Person of Egyptian Family Medicine Association and Faculty of Medicine, Menoufiya University, Shebin El-Kom, Menoufia, Egypt

Reviewer:

Dr Mohammed Tarawneh
 Wonca EMR President

Correspondence:

Dr. Waris Qidwai
 Professor and Chairman,
 Department of Family Medicine, Aga Khan University
 Stadium Road, P.O. Box: 3500, Karachi 74800, Pakistan
 Fax: (9221) 3493-4294, 3493-2095
Email: waris.qidwai@aku.edu; warisqidwaikarachi@yahoo.com

Abstract

Introduction: The aim of this study was to identify the current practices and perceptions of family physicians regarding health promotion, disease prevention including periodic screening and health checks in Eastern Mediterranean Region.

Methods: A multi-country cross-sectional study was conducted in six countries of EMR, from September 2014 to March 2015. Family Physicians who were currently practicing in different countries of EMR were invited to participate in the study through email. A pre-tested structured questionnaire was used for data collection. Data was entered and analyzed on SPSS 19 and logistic regression analysis was performed.

Results: A total of 100 physicians' data was included in the final analysis. The majority were female physicians (76%); 63% were 25 to 35 years of age. Approximately 53% of Family physicians always recommend periodic screening and health checks to their patients. The common screening question asked to patients in medical history was related to their blood pressure (86%). Almost all (99%) of the Family physicians believe they should conduct periodic health checks. Those who had postgraduate training in Family Medicine (OR: 0.5; 95% CI: 0.39-1.67) and attended CME sessions regularly (OR: 0.11; 95% CI: 0.01-0.93), are more likely to recommend periodic screening and health checks to their patients.

Conclusion: Periodic screening and health check is an important strategy to prevent disease and maintain health. It is an underutilized practice and a great need exists for its implementation in family practice.

Key words: Periodic Screening, Health Screening, Health Check; Physical Examination; Health Assessment; Family Physicians

Introduction

Healthcare around the world is becoming sophisticated and expensive when it comes to its provision to the entire population. Availability of treatment options due to technological advances on one hand, and a rapidly increasing elderly population with multiple co-morbidities on the other is putting immense pressure on limited resources for healthcare provision.(1) Such valuable resources should be used efficiently. Thus, a strong focus on early disease detection through evidence-based and effective screening programs and regular health checks to specific age groups will help reduce disease burden and offer health service coverage to a larger segment of population to achieve universal health coverage.(2)

Periodic health screening and checks have assumed a very important position in primary care and family medicine, for their value for money in disease prevention, health maintenance and early detection of diseases. These examinations offer an effective strategy to detect diseases early and offer cost-effective intervention options and with good outcomes.(3)

Evidence-based screening strategies and tests are designed to pick up diseases early.(4) There is criticism of periodic screening and health checks that they have not shown outcome-based benefit.(5) It has been found much more useful when selected populations at higher risk for a medical condition are subjected to effective screening programs.(6) Despite all the criticism, evidence exists for early detection of diseases through periodic screening and health checks.(7)

There is substantial acceptance for periodic screening and health check and screening among patients, but costs for these measures and tests are a cause for decreased interest for such preventive health interventions.(8) Benefits of periodic screening and health checks have been demonstrated, yet more research is needed.(9,10) It is most challenging for a Family Physician to decide which patient to screen and to select the most appropriate screening method. Patients are presenting for periodic screening and health checks often have a hidden agenda such as a fear of underlying malignancy for example and this aspect much be kept in mind.(11) Eastern Mediterranean countries are faced with huge disease burden and a focus on health promotion, and disease prevention is essential to reduce such burden. We identified a need to look at the practices and perceptions of Family Physicians from the Region with regards to health promotion, disease prevention including periodic screening and health checks.

Methods

Study Setting

A multi country cross-sectional study was conducted across six countries (Bahrain, Egypt, Iraq, Kuwait, Pakistan and Saudi Arabia) of the 22 countries of the Eastern Mediterranean Region (EMR), from September 2014 to March 2015. These countries were selected to obtain perceptions and practice of Family Physicians regarding health promotion, disease prevention including periodic screening and health checks.

Selection of participants

Family Physicians who were currently practicing in these six countries of EMR were invited to participate in the study. They were informed about the study protocol and were requested to participate in the study and return the filled questionnaire through email within a month. Reminders were sent every week to the Family Physicians who agreed to participate in the study.

Informed Consent

The information about the study protocol and consent forms were sent to each Family Physician who agreed to participate in the study, and they were asked to return the signed consent form. The study was conducted in accordance with the Helsinki Declaration and the Departmental Research Committee of the Aga Khan University reviewed and approved the study.

Study Questionnaire

A questionnaire was formulated after compiling important aspects of periodic health evaluation through extensive literature search and by taking expert suggestions. The questionnaire was initially prepared in English; however, it was also translated to Arabic, as it is a common language in the region. The questionnaire was pre-tested on five physicians and ambiguities found were removed. The questionnaire was composed of 2 sections: The first section covers demographic details of the participants, while the second section focuses on perceptions and practices of physicians regarding health promotion, disease prevention including periodic screening and health checks.

Statistical Analysis

Data was entered and analyzed in SPSS version 19.0. The analysis was completed in two stages i.e. descriptive and inferential. Frequencies of all the variables were reported in the descriptive analysis. In the 2nd stage, logistic regression analysis was performed to identify the factors that promote Family physicians to recommend periodic health evaluation to their patients. In the regression analysis the outcome was Family physicians who recommend health evaluation to their patients (Yes/No). Univariate analysis was carried out to obtain the independent effects of factors on the outcome. Since none of the variables were found to be significant at the Univariate level, therefore, multivariate regression was not performed. The results were reported in the form of unadjusted odds ratio along with their 95% confidence interval. Throughout the analysis a P value of < 0.05 was considered statistically significant.

Results

Table 1: Baseline characteristics of Study Participants (n=100) (Part A)

Variables	Number
Age	
25-35	63
36-45	17
46-55	16
> 56 years	4
Gender	
Male	24
Female	76
Postgraduate Training	
Yes	87
No	13
Postgraduate Qualification (n=87)*	
Diploma	19
Master's Degree	7
Board/Membership Exam	63
PHD	2
Specialization (n=87)	
Family Medicine	93
Others	7
Where	
In East Mediterranean Region	95
Outside East Mediterranean Region	5
Avg. Patients per week	
< 25	57
25-50	41
100-200	2
Avg. time spent on patient	
5 min	17
10 min	47
15 min	24
20 min	12
Attend CME regularly	
Yes	92
No	8
No of CME hours per year	
10	23
20-40	18
20-50	31
> 50	20

Table 1 (Part B)

Current Post	
Private practice	8
Public practice	32
University post	19
Residency	41
Country	
Bahrain	1
Egypt	30
Iraq	30
Kuwait	1
Saudi Arabia	7
Pakistan	31

*Sum cannot be 100 as some FPs had more than 1 degree

The demographic characteristics of the participating physicians are presented in Table 1. A total of 100 Physicians returned completed questionnaires and were included in the final analysis. The response rate was 71% (100/140). The majority of the sample population were female physicians (76%) and 63% of them were between 25 to 35 years of age. About 87% of the physicians had a postgraduate training; 93% had done specialization in Family Medicine. Slightly over two-fifths (41%) were in their residency programs and 32% working in the public sector. On an average 57% see less than 25 patients per session and 47% spend at least 10 minutes with each patient during consultation. A vast majority of participants attended CME regularly; with 31% attending 20 to 50 CME credit hours per year. Of the total physicians sample, the majority were from Pakistan (31%), followed by Egypt (30%) and Iraq (30%).

Table 2: Family Physician questions asked in history and Physical examination

Questions	Always	Sometimes	Never
Do you recommend Periodic Health Check to your patients?	53%	47%	—
Do your patients request Periodic Health Check?	8%	86%	8%
Screening Questions			
Tobacco use	77%	19%	4%
Exercise	46%	42%	12%
Dietary pattern	49%	49%	2%
Family history of Diabetes	85%	14%	1%
Depression/Mental health disease	27%	54%	19%
Alcohol	25%	45%	30%
Habit forming drugs	28%	54%	18%
Body Mass Index (BMI)	38%	42%	20%
Blood pressure	86%	12%	2%
General and systemic examination to screen for abnormalities	62%	37%	1%

There are limited national screening programs in the surveyed countries which reflected poor quality of health service planning in these countries. Approximately 53% of the Family Physicians (FPs) responded that they always recommend periodic screening health checks to their patients. The clinical practice screening questions asked in history and in physical examination are given in Table 2. The FPs common health checks questions asked from patients in medical history were related to their blood pressure (86%), closely followed by family history of diabetes (85%) and tobacco use (77%). However, the least common questions asked from patients were about alcohol (25%), mental health status of patients (27%) and Body Mass Index (38%).

Table 3: Investigations & Health Education as part of Periodic Check Up

<i>Investigations</i>	<i>Always</i>	<i>Sometimes</i>	<i>Never</i>
Hemoglobin	67%	33%	—
Stool for Occult blood	9%	63%	28%
Urine dipstick	27%	56%	17%
Blood sugar	60%	40%	—
HbA1C	13%	59%	28%
Lipid profile	50%	45%	5%
Thyroid function test	16%	68%	16%
Serum Creatinine and electrolytes	25%	59%	16%
Liver function tests:	24%	63%	13%
Serum Vitamin D3	7%	41%	52%
Bone Density	11%	49%	40%
Electrocardiogram	22%	70%	8%
Chest X-Ray	19%	69%	12%
Mammogram	10%	51%	39%
Cervical smear	8%	41%	51%
Prostate specific antigen	8%	19%	73%
Adult Vaccine Status	19%	69%	12%
Travel Vaccine Status	20%	26%	54%
<i>Health Education</i>			
Obesity	81%	19%	—
Smoking	82%	18%	—
Diet	81%	19%	—
Exercise	74%	26%	—

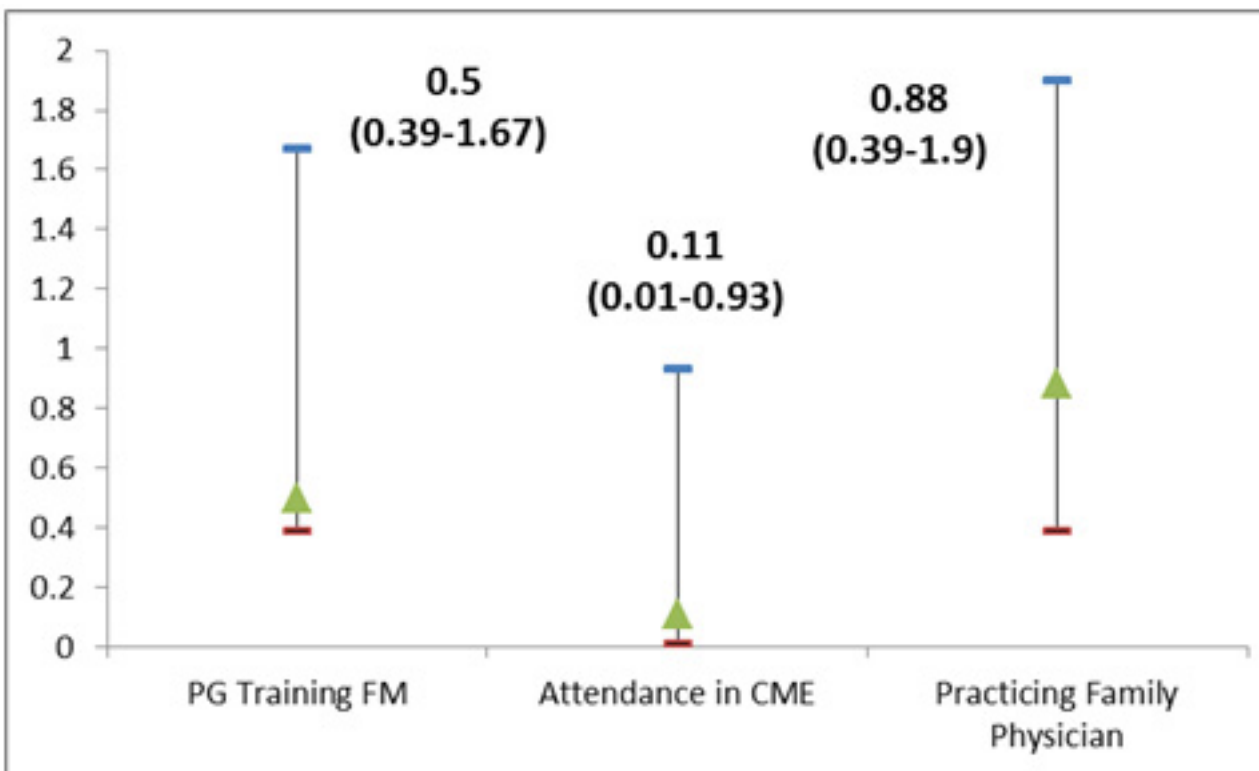
Clinical practice investigations as part of periodic physical examination are presented in Table 3. Over two thirds (67%) of the FPs responded that they always use hemoglobin as clinical marker in health evaluations. About 60% always order blood sugar and 50% request for lipid profile. 51% of them mentioned that they never advised patients for cervical smear, 73% of them never asked patients to get prostate specific antigen, and about 54% didn't ask about the travel vaccine status. The majority of them provide counseling to patients during periodic health checks on obesity and diet (81%), smoking (82%) and exercise (74%).

Almost all (99%) FPs were of the view that periodic health evaluations should be conducted by them while 43% believed that they should be conducted by nurses. Besides that, 98% of them responded that the evaluation should be conducted in primary health center clinics. As far as frequency of periodic health evaluations is concerned, 73% of them would recommend health evaluations every year, whereas, 17% recommend it every two years and 10% every three years. 62% of the Family physicians agree that ongoing opportunistic check is as important as periodic health evaluations. About one third of them believed that preventive health practices do not interfere with ongoing disease treatment and care (Table 4).

Table 4: Perceptions of Family Physicians regarding Periodic Health Check Up (n=100)

Variables	Yes	No	Don't Know
<i>Periodic Health Evaluations Should be carried out by</i>			
Nurse Practitioner	43%	50%	7%
Family Physician	99%	1%	—
Internist	45%	39%	16%
<i>Where Health evaluation be carried out</i>			
Patient's home	20%	77%	3%
Primary Health Care facility	98%	2%	—
Hospital	46%	49%	5%
Do you agree that ongoing opportunistic screening is as important as periodic physical evaluation/check?	62%	29%	9%
Preventive health practice interferes with provision of ongoing curative care:	29%	33%	38%

Figure 1: Factors that promote Family Physicians Periodic Health Evaluations Practice



Univariate logistic regression analysis

*Attendance in CME significant at p value < 0.05

Figure 1 depicts the factors that motivate FPs to recommend periodic screening health checks to their patients. Those who had a postgraduate training in Family Medicine (OR: 0.5; 95% CI: 0.39-1.67) are more likely to recommend health evaluations to their patients. Likewise, those who attend CME sessions regularly (OR: 0.11; 95% CI: 0.01-0.93) and those who are working as trained Family physicians (OR: 0.88; 95% CI: 0.39-1.9) are promoters of periodic screening health checks.

Discussion

This is probably among the first studies from the East Mediterranean region that looks at health promotion, disease prevention including periodic screening health checks and the perception and practice of Family Physicians in the Region. The sample was limited to 100 respondents; the majority of them were women, in residency training or with postgraduate qualifications and undertaking Continuing Medication Education on a regular basis. Therefore, it will not be possible to generalize results of this study to Family Physicians practicing in EMR. Even with this limitation, results of our study do offer insight into the knowledge, attitude and practices of Family Physicians with regards to health promotion, disease prevention including periodic screening health checks in the region. Half of respondents in this study recommend periodic screening and health checks to their patients. Yet it is disappointing to note a much smaller number of patients request these important health services from their doctors. In Eastern Mediterranean Countries, an earlier study showed that 90% of the Physicians recommend periodic health evaluation to patients.(12)

It has been noted that patient's preference for preventive strategies depends on household income and education.(13) It is again encouraging to note that a significant number of respondents ask about smoking, exercise and diet in the history and check for blood pressure, yet a much smaller number actually look at body weight and BMI.

It is also encouraging to note that a substantial number of respondents recommend blood sugar, lipid profile, hemoglobin, serum creatinine and LFTs for their patients during these health checks encounters. A need exists to focus on adult and travel vaccination for disease prevention. A recent study has shown that adult immunization coverage is less than satisfactory, even in those who have insurance coverage.(14) It is again encouraging to note respondent's recommendation for lifestyle related patient education and counseling.

The recommendation by most respondents that such periodic screening and health checks should be provided in primary care settings is more than welcomed, even though a substantial number of them feel that it interferes with provision of ongoing disease treatment and care. It has been earlier reported that need for acute and chronic disease treatment and care interferes with the provision of promotive and preventive health interventions.(15) It is no surprise that respondents with postgraduate training in Family Medicine and those undertaking CME activities recommended periodic screening and health checks more often to their patients.

The study indirectly highlighted the shortcoming in the health systems of EMR countries; the lack of national systematic approaches to periodic screening and health checks to target population based on best evidence. Promotion and prevention interventions at community (routine) and individuals (opportunistic) can be achieved

for the benefits of the people without universal health coverage through comprehensive primary care services for all.(2)

Research is required to demonstrate long-term benefits of delivering several preventive interventions during preventive health examinations. It is also required to assess such interventions in the context of different populations needs, defining comparisons to "routine care" and carefully evaluate intermediate outcomes, harms and costs.(16)

Conclusion

Health services are becoming complex and expensive. With the availability of new intervention modalities and an increasing ageing population, it is becoming challenging to provide adequate health service coverage. Given this background, health promotion, disease prevention including periodic health examinations will reduce healthcare costs and provide funds to promote access to healthcare to the majority of those who need it and with equity. We have found support for health promotion, disease prevention including periodic screening and health checks in this study and recommend its practice in Eastern Mediterranean region.

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