

Primary health care physicians' views on periodic health evaluation in Saudi Arabia

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آراء أطباء الرعاية الصحية الأولية حول التقييم الصحي الدوري بالمملكة العربية السعودية
نورة عبد الله الرويس وتوفيق بن أحمد خوجة ومها عجي الدين الفراء ونورة ناهض الناهض

خلاصة: تُسَمِّمُ سرائف أطباء الرعاية الصحية الأولية ومعتقداتهم تجاه التقييم الصحي الدوري بأهمية كبيرة في تحديد أكثر الوسائل فاعلية وقبولاً لتقديم الخدمات الوقائية السريرية الموصى بها. ولقد هدفتنا في هذا البحث إلى تقييم آراء أطباء الرعاية الصحية الأولية بالمملكة العربية السعودية في عمليات التقييم الصحي الدوري. تم إرسال استبيان يمكن استيفاء بياناته ذاتياً، بعد اختياره مسبقاً، إلى 1235 طبيباً اختبروا عشوائياً من جميع أنحاء البلاد. وقد أوصى حوالي 90% من الأطباء بإجراء تقييمات صحية دورية لساكني المتنوعين أو بعضهم، فيما لم يوص بذلك 10% من الأطباء. وكانت الغالبية العظمى (95%) من الأطباء على علم بفوائد الفحوص الصحية الدورية وبتكاليفها، وكانوا على استعداد لتطبيقها. وينبغي العمل على تشجيع تحمسهم لأداء المهام الكثيرة التي تتطلبها هذه الفحوص.

ABSTRACT The attitude and beliefs of primary health care physicians regarding periodic health evaluation is critical to determining the most effective and acceptable means for delivering recommended clinical preventive services. We aimed to evaluate the views of primary health care physicians in Saudi Arabia on periodic health evaluation. A self-administered and pre-tested questionnaire was sent to 1235 physicians randomly selected throughout the country. About 90% of the physicians would recommend periodic health evaluations to all or some clients while 10% would not. Almost all (95%) of the physicians were aware of the benefits and costs of periodic health examinations, and were willing to carry it out. Their enthusiasm for performing many items during examinations should be encouraged.

Les vues des médecins de soins de santé primaires au sujet du bilan de santé périodique en Arabie saoudite

RESUME L'attitude et les croyances des médecins de soins de santé primaires au sujet du bilan de santé périodique sont critiques pour déterminer le moyen qui soit le plus efficace et acceptable pour fournir les services préventifs cliniques recommandés. Notre objectif était d'évaluer les vues des médecins de soins de santé primaires en Arabie saoudite au sujet du bilan de santé périodique. Un questionnaire à remplir soi-même a été envoyé – après avoir été testé au préalable – à 1235 médecins choisis au hasard dans tout le pays. Environ 90% des médecins recommanderaient des bilans de santé périodiques à tous les patients ou à certains tandis que 10% ne le feraient pas. Presque tous les médecins (95%) étaient conscients des bénéfices et des coûts du bilan de santé périodique et étaient disposés à le réaliser. Leur enthousiasme à réaliser de nombreuses parties du bilan devrait être encouragé.

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Introduction

Routine periodic health evaluation (PHE) is a popular format in primary care practice for the delivery of clinical preventive services to adults [1]. Yet it remains a matter of interest and debate. The American Medical Association (AMA) has held a position favouring periodic examinations of well people since 1923 [2]. The content of PHE received little attention until the 1970s when the first systematic effort to review what physicians do in a periodic health examination was reported by Frame and Carlson [3-6].

In 1977, Breslow and Somers proposed a lifetime health monitoring plan that identified both specific health goals and professional activities appropriate for 10 different age groups [7]. In 1979, the Canadian Task Force reported its landmark study on PHE [8]. The Task Force introduced the concept of using the rules of evidence to evaluate the quality of reported data, and it also recommended replacing the "annual physical" with periodic health examinations based on the client's age and gender [9]. The Canadian Task Force placed significant importance on the role of the family physician in providing evidence-based preventive care through PHE. The United States Preventive Services Task Force (USPSTF) published its first set of prevention guidelines in 1989 [10]. It recommended that people aged 19-64 years should receive some form of PHE every 1-3 years, while those aged 65 years and older should receive it annually. In the absence of specific risk factors, the USPSTF recommends a very limited screening physical examination, relatively few screening laboratory tests and extensive risk-specific counseling [10].

The aim of PHE is not limited to the early detection of diseases, but it also includes

the recognition and corrections of certain risk factors that may presage disease. It is also important in building a good doctor-patient relationship based on mutual trust that will help in achieving the afore-mentioned aims. Research has shown that the risk of stroke can be reduced by 37% and the risk of myocardial infarction by 33% with screening and pharmacological treatment [11]. In a study assessing patient satisfaction with health care, patients were more satisfied when they were offered preventive health care services than when they were not [12]. In a similar study in Finland, almost all clients viewed the PHE programme as generally beneficial [13].

Thus far we have mentioned only the benefits of PHE. However, it has also had an adverse effect on health which is related to the harmful psychological effects on individuals. People receiving false-positive test results have been shown to suffer high levels of anxiety, which are not resolved immediately when subsequent testing shows no signs of disease [14]. Furthermore, people who were found to be hypertensive in a screening programme have increased anxiety, increased absence due to sickness and a reduced perception of their health status regardless of whether they need to be treated or not [14]. Cholesterol-screening programmes have shown a paradoxical effect, with a reduction in death from heart disease but a small increase in total mortality [14]. Healthy adults who were screened for coronary heart disease risk factors showed a significant increase in psychological distress [15]. Another harmful effect, which needs further research, is the "certificate of health effect", which suggests that people who have received negative results from a screening programme may be more resistant to advice on healthy lifestyles. Based on these adverse effects, it has been suggested that before

implementation of any screening programme, the social and psychological costs of it must be ascertained.

The burden of health checks lies not in screening programmes, but in subsequent intervention and follow-up. Some preventive interventions in general practice are proven effective. However, much of the confusion about the value of preventive medicine arises from a failure to differentiate between potential risk reduction and the extent to which this potential can be realized in clinical practice [16].

Although PHE is popular and recommended by many for continued use, it is still little used in Saudi Arabia. There is as yet no common policy on its content or pattern of use. The attitudes and beliefs of primary health care (PHC) physicians regarding PHE is critical to determining the most effective and acceptable means of delivering recommended clinical preventive services. Our study was carried out in order to evaluate the views of PHC physicians on PHE.

Participants and methods

A self-administered questionnaire was developed and pre-tested. The questionnaire was divided into three sections. The first part included personal data, while the second one dealt with PHC physicians' views on PHE with regard to the need for PHE, the providers and recipients, as well as where it should be conducted, the methods which should be used and its benefits. The third part assessed the physicians' opinion on the items that should be included in the PHE in relation to physical examination, screening tests and health education issues.

In responding to questions on views of PHE, participants were instructed to answer yes or no. The contents of PHE were

assessed by asking the participants to report their attitude to a specific examination or test, and whether they would recommend it for everybody or for selected groups, if they thought that it was not necessary, or if they were not sure of its necessity.

PHC physicians were chosen because the PHC centres (PHCCs), where they work, and which now number 1731 throughout the country, are the first point of contact with health care services for the majority of the people. It is therefore relevant to seek the views of these doctors about PHE before it is integrated into the already existing services.

The total number of physicians working in PHCCs is 4172. Only 345 of them are Saudi and the rest are from other Arab countries and Pakistan and India. Those with postgraduate degrees in PHC are a minority.

In order to ensure a better response, the questionnaires were distributed randomly to 1235 of the physicians working in the PHCCs through the Director-General of PHCCs. The questionnaires were distributed and collected between April and October 1997.

Data were analysed using *Stat-Pac Gold*, and a chi-squared test was used to assess the significance of association between variables.

Results

Sociodemographic characteristics of the physicians recruited in the study are presented in Table 1. The majority of them were 31-50 years of age (89.5%). Nearly three-quarters were male (74.4%), 95.7% were non-Saudi and 95.6% were married. Most of the respondents were residents (90.7%), and a large percentage of the total

had taken one or more postgraduate course(s) (73.9%).

In all, 851 (68.9%) of the physicians would recommend PHE to all clients, while 256 (20.7%) would recommend it to some clients; 119 (9.6%) would not recommend PHE and 9 (0.7%) expressed no preference. In relation to the content of PHE, 93.1% of the physicians were in favour of including

physical examinations as well as laboratory screening and health education in PHE, while 1.2% recommended only physical examinations. When the location of the PHE was studied, 42.1% considered the PHCC to be the best place to conduct PHE, while 6.7% preferred the hospital and 0.5% preferred the home. The general practitioner (GP) was thought to be the best person to conduct PHE by 28% of the respondents, while others recommended the hospital doctor or nurse to carry out the examination (5.6% and 1.3% respectively). Some recommended more than one of them could be involved in the provision of PHE. Most of the physicians advocated both opportunistic and true screening to be implemented in the PHE (61.1%).

Table 2 gives the reasons for not recommending PHE. Time constraints and increased workload on the centre were the two most common reasons given for not recommending PHE. Men had significantly more favourable attitudes than women towards PHE as indicated by Table 3. In addition, non-Saudi physicians were significantly more in favour of PHE than Saudis,

Table 1 Sociodemographic characteristics of 1235 primary health care physicians working in primary health care centres

Characteristic	No.	%
<i>Age (years)</i>		
≤ 30	53	4.5
31-40	567	48.1
41-50	488	41.4
> 50	72	6.1
Missing data	55	-
<i>Sex</i>		
Male	911	74.4
Female	313	25.6
Missing data	11	-
<i>Nationality</i>		
Saudi	53	4.3
Non-Saudi	1170	95.7
Missing data	12	-
<i>Marital status</i>		
Single	47	3.8
Married	1170	95.6
Divorced	5	0.4
Widowed	2	0.2
Missing data	11	-
<i>Occupation</i>		
Resident	1098	90.7
Specialist	98	8.1
Consultant	14	1.2
Missing data	25	-
<i>Attended postgraduate courses</i>		
No	319	26.1
Yes	901	73.9
Missing data	15	-

Table 2 Reasons for not recommending periodic health examinations as cited by 119 primary health care physicians

Reason	No.	%
Time constraints	60	42.0
Lack of information	18	15.1
Financial issues	17	14.3
Increased workload on:		
Primary health care centre	72	60.5
Primary health care staff	67	56.3
Doctors	69	58.0
Assistant service (laboratory)	50	42.0
Clerk with paper work	46	38.7

while age and marital status did not have an appreciable effect on the attitude of physicians towards PHE. Occupation, qualification and taking postgraduate courses had no significant effect on the attitude towards PHE (Table 3). However, there was a statis-

tically significant difference in relation to the different regions of the country.

Nearly 70% of the PHC physicians would recommend PHE to all community members, while 20.7% would recommend it just for high-risk groups. Among this

Table 3 Attitude of primary health care physicians to application of periodic health examination (PHE) by individual variables

Variable	Total	Not recommended		Recommended to selected groups		Recommended to all patients		χ^2	P-value
		No.	%	No.	%	No.	%		
Sex									
Male	911	80	8.8	183	20.1	648	71.1	6.01	< 0.05
Female	313	39	12.5	73	23.3	201	64.2		
Nationality									
Saudi	53	6	11.3	22	41.5	25	47.2	15.3	< 0.05
Non-Saudi	1170	112	9.6	234	20.0	824	70.4		
Marital status									
Single	47	6	12.8	13	27.7	28	59.6	5.2	> 0.05
Married	1170	113	9.7	243	20.8	814	69.6		
Divorced or widowed	7	0	0	0	0	7	100		
Age (years)									
< 30	53	7	13.2	17	32.1	29	54.7	8.9	> 0.05
31-40	567	62	10.9	119	21.0	386	68.1		
41-50	488	39	8.0	98	20.1	351	71.9		
> 50	72	7	9.7	13	18.1	52	72.2		
Region									
Western	283	22	7.8	51	18	210	74.2	16.4	< 0.05
Eastern	195	22	11.3	48	24.6	125	64.1		
Central	443	57	12.9	94	21.2	292	65.9		
Southern	305	18	5.9	63	20.7	224	73.4		
Occupation									
Resident	1098	109	9.9	231	21.0	758	69.0	2.7	> 0.05
Specialist	98	9	9.2	17	17.3	72	73.5		
Consultant	14	0	0	4	28.6	10	71.4		
Qualification									
MBBS	902	91	10.1	194	21.5	617	68.4	1.8	> 0.05
Higher	313	27	8.6	59	18.8	227	72.5		
Attended postgraduate courses									
No	319	26	8.2	73	22.9	220	69.0	1.9	> 0.05
Yes	901	93	10.3	182	20.2	626	69.5		

Totals for variables do not add up to the total sample size (1235) because of missing information

group, 75.3% would recommend PHE for elderly patients, 76.2% for pregnant women, 60.7% for adolescents, 71.2% for children under 5 years of age and 73.7% for those with chronic illnesses. The well-man clinic was recommended by only 45.4% of physicians and the well-women clinic by 44.8%.

PHC physicians cited several benefits of PHE. These included early detection of problems and measurement of risk (96.3%), promoting and improving the health status of the community (95.4%), minimizing the complication of disease (94.8%), promoting healthy lifestyle approach (90.2%) and fostering the relationship between the health centre staff and the community (85.5%).

When the contents of PHE were evaluated, more than 60% of physicians reported that they would prefer to include the following: checking height, weight and blood

pressure, examination of lymph nodes, oral cavity, lungs, heart, abdomen and thyroid in all clients. However, they wanted to restrict other items for selected groups of clients, such as the examination of hearing, neurological examination, eye examination (tonometry, visual acuity, fundi), pelvic and breast examinations for females, and genital and rectal examinations for males.

Table 4 shows the percentage of physicians who recommended the inclusion of screening tests in PHE. The majority recommended these tests for selected groups of clients, with the exception of haemoglobin estimation and urine dipstick, which most physicians preferred done for everybody (70.7% and 58.7% respectively).

Figure 1 shows the views of physicians towards the inclusion of health education items in PHE and it is clear that most physicians were in favour of delivering health education to every client.

Table 4 Percentages of primary health care physicians recommending various screening tests in the periodic health examination

Screening test	For all		For selected groups		Not needed		Not sure if needed	
	No.	%	No.	%	No.	%	No.	%
Haemoglobin	857	70.7	336	27.7	12	1.0	8	0.7
Stool for occult blood	407	33.9	703	58.5	57	4.7	35	2.9
Urine dipstick	710	58.7	450	37.2	22	1.8	28	2.3
Blood sugar	488	40.3	695	57.4	12	1.0	16	1.3
Lipid profile	193	16.0	904	74.9	70	5.8	40	3.3
Thyroid function test	194	16.2	819	68.4	115	9.6	70	5.8
Urea and electrolytes	420	35.2	656	55.0	69	5.8	48	4.0
Liver function tests	237	19.8	822	68.8	78	6.5	57	4.8
Electrocardiogram	226	18.7	909	75.1	49	4.0	26	2.1
Chest X-ray	375	31.1	737	61.1	53	4.4	42	3.5
Mammography	159	13.2	869	72.0	95	7.9	84	7.0
Cervical smear	147	12.2	893	74.3	82	6.8	80	6.7

Totals do not add up to the total sample size (1235) because of missing information

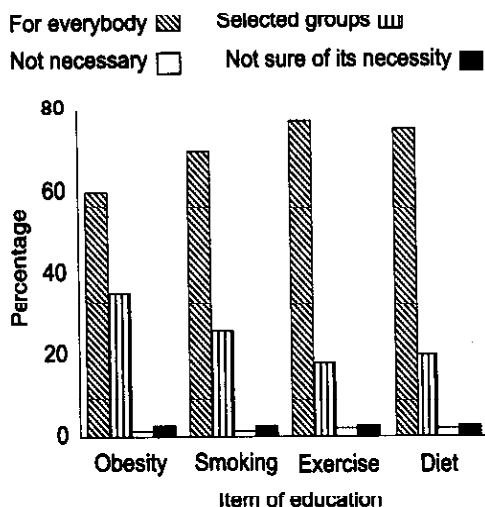


Figure 1 Percentage of primary health care physicians recommending health education items in the periodic health examination

Discussion

Prevention is better than cure and the role of PHC physicians in providing preventive services through PHE is vital. This study was an attempt to evaluate the views of PHC physicians regarding health evaluation. The sample studied constituted about one-third of the total number of PHC physicians working in Saudi Arabia.

Most of the physicians were males (75%) and 96% were non-Saudi. Most of the physicians in the PHCCs are expatriates working on a contract basis with the Ministry of Health. In addition, the number of Saudi graduates is not enough to fill all the vacant positions in PHCCs. Furthermore, Saudi physicians consider the specialty of PHC less attractive compared with specialties such as medicine or surgery, where they would be working in major hospitals and not in PHCCs. Saudi medical students are

not yet fully aware of the importance of the PHC specialty and they tend not to choose it as their career [17]. It is expected that the increase in the number of medical graduates and the national policy of Saudi Arabia in all sectors will change this picture in the future.

Nearly 90% of PHC physicians would recommend PHE to their clients, which is similar to what has been found in other studies [1,18,19]. Most of the respondents (93%) stated that PHE should include physical examination, laboratory screening and health education items. The value of a general physical examination of an asymptomatic client has been questioned and the clinical trials of multiphase screening have shown this to be a medically unproductive exercise [20–22]. But we should not forget the other benefits of physical examinations, such as building a good relationship with patients, meeting patients expectations and the curing effects of touch. USPSTF does not recommend routine use of most physical examination items [10]. So the role of a PHC physician in this case is to be selective in choosing the appropriate physical examination items according to the client's age and sex, bearing in mind the importance of building a good relationship with patients and meeting their expectations [13].

The recommendations of physicians vary on the use of laboratory screening tests, but in general quite a number of them would prefer to do haemoglobin estimation (70%) and urine dipstick tests (58%) for every client. Most of them would choose to do other tests only for selected groups (i.e. stool for occult blood, blood sugar, lipid profile, thyroid function tests, urea and electrolytes, liver function tests, electrocardiogram, chest X-ray, mammogram and cervical smear). However, the Canadian Task Force and USPSTF recommend only the following tests for adults 20–64 years:

mammography, cervical smear, cholesterol analysis and fasting and oral glucose tolerance test [8]. In a survey of family physicians, 22% supported routine screening for anaemia and 26% supported periodic urine testing for asymptomatic individuals [23].

The role of health education in prevention of disease is controversial, as education may increase the level of knowledge but will not necessarily lead to a change in behaviour. However, if information is received from a respected source, it can be sufficiently compelling to produce a change. People are likely to accept advice but reject orders [24].

Of all the respondents, 28% thought the GP was the best person to conduct a PHE, while others would delegate the task to other persons, such as the nurse or hospital doctor. The involvement of nurses in such tasks is to be recommended in order to involve them more in patient care, to increase their self-esteem and to improve their skills.

About 60% of the respondents advocated both opportunistic and true screening in PHE. This is advisable as both approaches will augment each other in case detection and prevention.

Those physicians who were not in favour of PHE (9.6%) mentioned time constraints and increased workload on the PHCC and its staff as reasons for not recommending PHE. However, this need not be a problem with good organization and management. In another study evaluating a "put prevention into practice" programme, the barriers to implementing preventive services were reported as: lack of time, competing demands, uncertainty about conflicting recommendations, lack of training in prevention and poor communication skills. Proponents of the competing-demands model suggest that efforts to im-

prove the delivery of preventive services are not likely to be effective unless the burden of other demands on the physician is removed [25].

It is difficult to explain why more men than women are in favour of PHE, but it could be attributed to the preoccupation of women with other matters or the small number of women compared with men in the studied sample. The difference between Saudi and non-Saudi doctors could be attributed to the small sample size of Saudi doctors (4.3%) compared with non-Saudi doctors.

There was a statistically significant difference between regions of the country regarding their attitude to PHE, for which no clear explanation could be found. It could reflect the demands/needs of the population in the western and southern regions of the country.

Nearly 70% of the respondents would recommend PHE for the whole community and 20.7% felt more attention should be directed to high-risk groups, who may need further examination and tests, such as the elderly population, pregnant women, adolescents, children under 5 years and those with chronic illnesses. This possibly reflects the awareness of PHC physicians of the needs of these groups, as PHE activities could be integrated into the provision of clinical care. Well-man and well-woman clinics were recommended by 45.4% and 44.8% of physicians respectively. Almost 95% of the respondents were aware of the benefits of PHE, which is encouraging for the implementation of such programmes.

Conclusion

The results of this study indicate that physicians working in PHCCs are aware of the

costs and benefits of PHE, and they seem to be ready to accept PHE if organizational problems are managed properly. Their enthusiasm for performing many items during PHE should be encouraged and properly directed. PHCCs should be well equipped to meet the needs of PHE and other obstacles faced by the PHC physicians in the provision of this service. Obstacles such as workload and time constraints should be evaluated and tackled effectively. A pilot application of PHE in selected urban and rural PHCCs is recommended. A review of

the pilot practice will throw more light on which approach should be adopted in the country.

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