

# MISSED CHRONIC DISEASE PREVENTION OPPORTUNITIES IN PRIMARY HEALTH CARE CLINICS IN TURKEY

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## ABSTRACT

• **Objective:** The study aimed to investigate the state of practices for the prevention of chronic diseases in outpatient clinics.

• **Material and Method:** Study design was primary health care center clients based cross sectional. Study which was held in a urban Family Medicine Center in a north-west Anatolia city Eskisehir (Turkey).

The study population consisted of 585 people which were selected randomly according to their application order.

Participants were asked; if they were questioned by their physician about major risk factors (smoking, obesity, diabetes mellitus, hypertension, coroner heart disease in family, glysemic level, cholesterol level) and regular exercise practice according to Primary Care 2006 Guidelines. If not it was

termed as 'missed opportunities' for chronic disease screening and prevention and management.

• **Results:** There were around the 90.0 %missing opportunities screening and management of obesity in outpatient clinics. Missing opportunities were approximately 80.0% for prevention and cessation management of smoking. There were very high missing opportunities for hypertensive patients' monitoring and risk factor management.

• **Conclusion:** Missed opportunities are a common problem in prevention from chronic disease. Especially preventive actions, health education and asking about risk factors are neglected in outpatient clinics and primary health care services.

• **Key Words:** Missed opportunities, prevention, chronic disease, screening, primary health care. *Nobel Med 2009; 5(3): 33-39*

## ÖZET

### TÜRKİYE BİRİNCİ BASAMAK KLİNİKLERİNDE KRONİK HASTALIKLARDAN KORUNMADA KAÇIRILMIŞ FIRSATLAR

• **Amaç:** Araştırma ayaktan bakım kliniklerinde kronik hastalıktan korunma uygulamalarını incelemeyi amaçlamaktadır.

• **Materyal ve Metod:** Araştırma birinci basamak sağlık hizmeti kullananlarda kesitsel olarak tasarlandı. Araştırma Kuzey Batı Anadolu'da yer alan Eskişehir'de kentsel bölgedeki bir Aile Hekimliği merkezinde yapıldı. Çalışma popülasyonu başvuranlar arasından rando-mize şekilde 585 kişi olarak seçildi. Katılımcıların başvurdukları hekim tarafından 2006 Birinci Basamak Rehberine göre, ana risk faktörleri (sigara içme, obezite, diyabetes mellitus, hipertansiyon, koroner kalp hastalığı aile öyküsü, glisemik düzey ve kolesterol düzeyi) ve düzenli egzersiz yapma açısından sorgulanma durumları

soruldu. Eğer bu sorgulamalar yapılmadıysa kronik hastalık tarama, korunma ve yönetimi açısından "kaçırılmış fırsat" gerçekleştiğine karar verildi.

• **Bulgular:** Ayaktan bakım kliniklerinde obezite ile ilgili %90'a varan kaçırılmış fırsat gerçekleştiği gözlemlendi.

Sigara içmeden korunma ve bırakma yönetimi ile ilgili kaçırılmış fırsatlar yaklaşık %80,0 civarındaydı. Hipertansif hastalarının izlenmesi ve risk faktörü yönetimi için yüksek düzeyde kaçırılmış fırsat olduğu gözlemlendi.

• **Sonuç:** Kronik hastalıktan korunma konusunda kaçırılmış fırsatlar yaygındır. Özellikle koruyucu uygulamalar, sağlık eğitimi ve risk faktörü sorgulanması birinci basamak sağlık hizmetlerinde ve ayaktan bakım kliniklerinde ihmal edilmektedir.

• **Anahtar Kelimeler:** Kaçırılmış fırsatlar, korunma, kronik hastalık, tarama; birincil sağlık bakımı. *Nobel Med* 2009; 5(3): 33-39

## INTRODUCTION

It is estimated that of 35 million deaths out of 58 million per year in the world are due to cardiac diseases, strokes, cancers and other chronic diseases, and 15 million of the cases are no older than 70.

Chronic disease deaths are most common in low and middle income countries and the death rates among middle aged population in these countries are extremely high. While the age adjusted death rates for chronic diseases are decreasing in many high income countries, the epidemic is growing in low/middle income countries because of the increase of risk factors, aging of the population and the frequent change in the social and physical environment. However this growing epidemic can be stopped by preventing chronic diseases as we know that most of them are really 'preventable'.<sup>1</sup> In Lithuania for instance, a decrease in preventable deaths is reported between 1991 and 1999. This decrease is estimated to be a result of development in medical care opportunities and appropriate public health policies based on main health needs.<sup>2</sup>

Turkey has passed to the third phase of the epidemiological transition, but there is still intense need for communicable disease control programs in some areas. However there is a necessity for 'chronic disease control programs' all over the country. Until recently primary health care in Turkey was organized and served by community based primary health care centers according to the 'Law on Socialization of Health Services'. Together

with the 'Turkey Health Transition Project' some of these primary health care centers have been replaced with 'Family Medicine Centers' in some pilot cities during the past five years, and one more step towards the 'privatization' of national health services has been taken. The intention of the present government is to integrate this system to the whole country within a few years.<sup>3</sup> There are concerns in the health policy literature about the consequences of 'reform' as the ownership/privatisation model instead of community-governed non-profit primary care will decrease the efficacy of preventative medical applications.<sup>4,5</sup> Profit based organizations in the free market focus on treatment and neglect prevention. Some public health priorities like vaccination and family planning services are still effectively carried out by community based primary care health services in most of the country, but unfortunately the importance of control and prevention of chronic diseases is not well understood at these centers. Also in Turkey health reforms focused on financial issues rather than community based disease prevention or control programs. In this study we aimed to investigate the state of practices for the prevention of chronic diseases in a pilot area in outpatient clinics where the 'ownership' model is being tested.

## MATERIAL and METHOD

The 'Turkey Health Transition Project' started in 2004 and this study was held in a Family Medicine Center in Eskişehir (Turkey), which is one of the pilot cities of the program since 17 July 2006. There are 7 physicians→

practicing in this center which is responsible of 31186 people enrolled. The study was held between 03.12.2007 and 28.12.2008. The study population consisted of 585 people which were selected randomly according to their application order, using randomization cards prepared for every day of every week. Exclusion criteria were: patients younger than 18 years old and communication problems. Cases that were examined within the last 6 months were included into the study. A questionnaire was performed to patients taking part in the study. Physicians did not know which patients were included to the study and continued their routine daily practice without any intervention. On 23.11.2007, a pilot study was held with 10 questionnaires in order to pre-evaluate the questionnaire. Participants were asked to evaluate their last visit to the center. As there is no control over the patient's access to medical care, people could submit to different health centers.

While most of the participants had their last physical examination in this family health center (n=352, 60.6%), 37.3% (n=219) applied to second step hospital and 1.7% (n=10) applied to a university hospital. Missed opportunities were evaluated over these applications.

The questionnaires were carried out under observation, and for non-literates, questions were read and answers were filled out by the interviewer. Participants were asked; if they were questioned by their physician about major risk factors (smoking, obesity, diabetes mellitus, hypertension, coroner heart disease in family, glysemic level, cholesterol level) and regular exercise level according to Primary Care 2006 Guidelines, if some health education/counseling was given or not and if the patient is aware of these issues. If not it has termed as 'missed opportunities' for chronic disease screening and prevention and management. The profession was questioned in an 'open ended' question type and then divided into groups as follows: house wife, unemployed, student, retired, official, worker and tradesman. Obesity was evaluated by using Body Mass Index (BMI). BMI categories were as follows: 18.5 and below = underweight; 18.5-24.9= normal weight, 20.0-29.9= overweight and 30.0 and above= obesity. During the analyzes, 'underweight' and 'normal weight' groups were coded together as 'normal' and 'overweight' and 'obese' groups were coded together as 'obese'. Descriptive results are shown with tables and Chi-square analysis was performed for cross tables.

## RESULTS

Sixty one per cent (n=357) of the participants were female and 39.0% (n=225) were male. The mean age of the study group was 36.6±10.9. The mean ages of female and male participants were 35.8±10.8 and

**Table 1:** Demographic characteristics of the participants

	n	%
<b>Education status</b>		
Illiterate	45	7.7
Primary school	180	30.9
Middle school	113	19.4
High school	158	27.1
University	86	14.8
<b>Total</b>	582	100.0
<b>Occupation</b>		
Retired	81	14.0
Housewife	261	45.2
Unemployed	21	3.6
Student	28	4.8
Official	53	9.2
Worker	76	13.1
Artisan	58	10.0
<b>Total</b>	578	100.0
<b>Income (monthly)</b>		
No	84	14.4
225 Euro<	40	6.9
226-420 Euro	337	57.9
420-555 Euro	106	18.2
555 Euro>	15	2.6
<b>Total</b>	582	100.0
<b>Application frequency (per)</b>		
Months	221	38.0
Three months	234	40.3
Six months	125	21.5
Nine months	1	0.2
<b>Total</b>	581	100.0

38,4±10,8 respectively. The education level of most of the participants was primary school and below. While 45.2% (n=261) were house wives, the monthly income of 57.9% (n=337) was between 226 and 420 Euros. Most of the applications (75.1%) were made for a physical examination and 92.3% stated that were satisfied with the service. Nearly all of the participants were attending to a primary care health service at least once in six months. While 53.7% of the participants were overweight, 10.5% were obese and only 4.5% were exercising regularly. Fifty four point eight per cent of the participants were smokers, 21.6% suffered from hypertension and 6.7% had high cholesterol levels. 21.6% suffered from hypertension, 6.7% had high cholesterol levels and 14.4% had a coroner heart disease history in their family. Even though the participants had the opportunity to access a health service, 40.4% did not know their glysemic level, 41.4% did not know their blood cholesterol level and 27.4% had no idea about their blood pressure. →

<b>Table 2: Participants distribution according to risk factors.</b>		
	<b>n</b>	<b>%</b>
<b>Body mass index</b>		
Underweight	5	1.1
Normal weight	165	34.7
Overweight	255	53.7
Obesity	50	10.5
Total	475	100.0
<b>Doing regular exercise</b>		
Yes	26	4.5
No	553	95.5
Total	579	100.0
<b>Diet</b>		
Yes	8	1.4
No	566	98.6
Total	574	100.0
<b>Smoking</b>		
Yes	320	54.8
No	264	45.2
Total	584	100.0
<b>Blood pressure level</b>		
Normoglysemic	297	50.9
Hyperglysemic	126	21.6
Don't know	160	27.4
Total	583	100.0
<b>Glycemia</b>		
Normoglysemic	259	44.5
Hyperglysemic	88	15.1
Don't know	235	40.4
Total	582	100.0
<b>Blood cholesterol level</b>		
Normal	302	51.9
High	39	6.7
Don't know	241	41.4
Total	582	100.0
<b>Family history</b>		
No	438	75.3
Cardiac disease	84	14.4
Diabetes mellitus	43	7.4
Hypertension	17	2.9
Total	582	100.0

According to the questionnaire results, the most common procedure carried out in these health centers was measuring the blood pressure of the patient. Asking about the smoking status of the patient, measuring the blood sugar and cholesterol level was over 20%. Giving advice for regular physical activity was less than 10%.

Missed opportunities according to risk factors are shown in, 4 and 5.

Considering measuring the size and weight of patients, explaining health risks of obesity and giving advice about regular physical activity and healthy diet to prevent obesity, there was no statistical meaningful difference between obese and normal groups ( $p < 0.05$ ). The obese group received similar advice when compared to the normal weight group. There were around the %90 missing opportunities screening and management of obesity in outpatient clinics.

Only 20.8% of the smokers were questioned about their smoking habit and there was no statistical difference between questioning the smokers and nonsmokers ( $p = 0.965$ ). Only 17.8% of the participants received any advice about health risks of smoking and again there was no statistical difference between smokers and nonsmokers receiving information about this subject ( $p = 0.434$ ). Missing opportunities were approximately %80.0 for prevention and management of smoking.

In our study, diabetic patients were less frequently asked about regular physical activity compared to non diabetic patients (2.2% and 9.7% respectively,  $p = 0.019$ ), but there was no statistically significant difference between questioning diabetic and non-diabetic patients about their diet (3.4% and 7.3% respectively,  $p = 0.131$ ). Not surprisingly, blood sugar level was measured more frequent in diabetic patients ( $p < 0.001$ ). Asking about the smoking status was similar in both groups ( $p = 0.431$ ). Doctors were more likely to ask diabetic patients about their family history compared to non diabetics (22.7% and 14.0% respectively,  $p = 0.037$ ). There were very high missing opportunities for diabetic patients' risk factor management (Between 78.6%-92.0%).

Asking about regular physical activity, questioning about a healthy diet, and asking about the smoking status was similar between patients suffering from high blood pressure and patients who had a normal blood pressure level ( $p > 0.05$ ). Measuring the blood pressure was performed more frequent among diabetic patients ( $p < 0.001$ ). Frequency of taking a family history was similar between both groups who had high blood pressure and normal blood pressure levels (17.2% and 14.9% respectively  $p = 0.522$ ). There were very high missing opportunities for hypertensive patients' monitoring and risk factor management (Between 78.6%-93.3%).

Preventive health services are not sufficiently qualified in both primary and upper levels of all health care services. Considering only family health centers, results show that in family health centers, measuring blood cholesterol and Gycemic levels are procedures carried out more frequent compared to other health centers. →

On the other hand, subjects like measuring body size and weight, explaining risks of obesity, asking about physical activity, explaining the benefits of regular exercise, promoting a health diet, asking about the smoking status and explaining the risks of smoking more frequent performed in second and third step health care services when compared to primary care.

## DISCUSSION

Primary health care services in Turkey are mostly used by women as it is in some other countries.<sup>6</sup> In Turkey an important amount of women are 'housewives' and do not take part in the labor force (%75.0).<sup>7</sup> Most of the participants in this study were in the middle and low income group which is an other important characteristic of the population using primary care health services. In a word, people attending these primary health care services are a special group with many risk factors and prevention of chronic diseases should be an important subject. Especially in developing countries services for the prevention of chronic diseases are not enough in amount and not sufficiently qualified.<sup>1</sup> The challenge for the national governments in developing countries is to scale up interventions, and build capacity for effective national chronic disease control programmes.<sup>8</sup> The overall prevalence rate of overweight and obesity changes between 19.0-25% in different studies in Turkey.<sup>9, 10</sup> An important part of our study population consisted of overweight and obese patients. In Turkey obesity is a prevalent and important problem especially among women and 'non-working' people. Unfortunately very few patients belonging to any of these risk groups are questioned about their problem or receive any information about the subject. Therefore we can say that obesity is an important missed opportunity in primary health care services. But patients need more help for their obesity; patients who receive any information about the management of obesity tend to spend more effort to loose weight, compared to patients who receive no information.<sup>11-13</sup>

An other problem is that the number of people demanding for advice is very low, even if they are in the risk group: obese people do not ask for help in order to choose a healthy diet or start regular physical activity. We know that health services are not sufficiently qualified and health professionals are not enough trained at medical school about this subject. Also health politics are neglecting this problem.<sup>14</sup> The low rate of dietary and physical activity advice reported by overweight patients implies that more lifestyle counselling should be provided in primary health care. There is an obvious need for improved training and education of GPs in counselling of overweight patients focusing

**Table 3:** Missed opportunities for obesity screening and management in outpatient clinics.

Practices		Normal		Obese		Total		p
		n	%	n	%	n	%	
Height and weight measurement	Yes	22	12.9	32	10.6	54	11.4	0.435
	No	148	87.1	271	89.4	419	88.6	
Obesity health effects explained	Yes	18	10.6	34	11.2	52	11.0	0.833
	No	152	89.4	269	88.8	421	89.0	
Regular exercise questioned	Yes	17	10.0	28	9.4	45	9.6	0.822
	No	153	90.0	271	90.6	424	90.4	
Regular exercise advised	Yes	13	7.6	27	9.0	40	8.5	0.621
	No	157	92.4	274	91.0	431	91.5	
Regular exercise benefits explained	Yes	13	7.7	25	8.4	38	8.1	0.791
	No	156	92.3	273	91.6	429	91.9	
Healthy diet questioned	Yes	13	7.7	25	8.4	38	8.1	0.791
	No	156	92.3	273	91.6	429	91.9	
Healthy diet practice advised	Yes	20	11.8	25	8.4	45	9.6	0.225
	No	149	88.2	273	91.6	422	90.4	
Healthy diet benefits explained	Yes	13	7.9	26	8.8	39	8.5	0.730
	No	152	92.1	269	91.2	421	91.5	

on methods of giving dietary and physical activity advice.<sup>15</sup> Family medicine physicians can use well visits to offer strategies to treat overweight and obesity in children and adults. Training staff to measure and document BMI is a useful prompt for the physician to discuss overweight. Counseling is especially important in obesity accompanied with other cardiovascular risk factors.<sup>16-18</sup>

Exercise is an important factor in preventing obesity, especially in people living a sedentary life-style. But doctors are neither questioning their patients' physical activity nor mention the importance of regular exercise. There is no difference between obese and non-obese patients when the subject is receiving advise about the importance of regular exercise. In the USA, this rate is 50% for obese people. Our study is much more behind this percentage.<sup>19</sup> Although there are many guides and educational materials prepared about diet and physical exercise, counseling is not enough even in the US. Studies show that there is need for innovations. In our study group though there is a possibility for changes even if only educational materials and guidelines are used.<sup>20</sup> Smoking counseling is also a missed opportunity in primary health care services. Asking cigarette addicts questions about their problem, giving information about the risks may motivate a patient to quit his habit. It is shown that even only these interventions are very on stopping smoking. In our study population receiving any help about smoking is far behind health services in developed countries. Every primary health care service should take responsibility, and help patients to stop their addiction.<sup>21, 22</sup> Smoking questioning and blood pressure measuring →

**Table 4:** Missed opportunities according to smoking prevention, diabetes mellitus (DM) and hypertension management in outpatient clinics.

Practices		Current smoker		Non smoker		Total		p
		n	%	n	%	n	%	
Smoking questioned	Yes	64	20.8	54	20.9	118	20.8	0.965
	No	244	79.2	204	79.1	448	79.2	
Smoking health risks explained	Yes	50	16.7	49	19.2	99	17.8	0.434
	No	250	83.3	206	80.8	456	82.2	
		Diabetic		Non diabetic		Total		p
Regular exercise questioned	Yes	2	2.2	47	9.7	49	8.5	0.019
	No	89	97.8	440	90.3	529	91.5	
Healthy diet questioned	Yes	3	3.4	39	8.0	42	7.3	0.131
	No	84	96.6	447	92.0	531	92.7	
Glysemic level measured	Yes	52	58.4	74	15.3	126	22.0	<0.001
	No	37	41.6	408	84.7	445	78.0	
Smoking questioned	Yes	15	17.6	103	21.4	118	20.8	0.431
	No	70	82.4	378	78.6	448	79.2	
Family history questioned	Yes	20	22.7	68	14.0	88	15.4	0.037
	No	68	77.3	417	86.0	485	84.6	
		Hypertensive		Normotensive		Total		p
Regular exercise questioned	Yes	11	8.8	38	8.4	49	8.5	0.884
	No	114	91.2	415	91.6	529	91.5	
Healthy diet questioned	Yes	12	9.7	30	6.7	42	7.3	0.257
	No	112	90.3	419	93.3	531	92.7	
Smoking questioned	Yes	23	19.0	95	21.3	118	20.8	0.574
	No	98	81.0	350	78.7	448	79.2	
Blood pressure measured	Yes	52	41.6	96	21.4	148	25.8	<0.001
	No	73	58.4	352	78.6	425	74.2	
Family history questioned	Yes	21	17.2	67	14.9	88	15.4	0.522
	No	101	82.8	384	85.1	485	84.6	

common practices in outpatient clinics but still they are far from current practice guideline targets.<sup>23</sup> Hypertension is a common but mostly undiagnosed chronic health problem in Turkey. High blood pressure can only be taken under control if diagnosed correctly.<sup>24</sup>

However scanning for hypertension to catch cases is not enough and non-pharmacological advise in order to control the blood pressure is given very rarely. Similar situation is reported in the USA. Clinical visits are important opportunities to control hypertension and giving advise for a healthy life. Doctors need to understand the importance of non-pharmacological therapy.<sup>25,26</sup> Laboratory screening tests are also rarely performed in primary health care services. History taking is an important part of physical examination and the key point for correct diagnosis, but patients are not questioned enough about hypertension, diabetes or cardiovascular diseases. Besides this, laboratory screenings for diseases listed above are more frequently performed in primary health care services, compared

to secondary and third step services. This is not surprising because primary care health services are easy to reach. On the other hand, other preventive health care services are insufficient, especially in primary care. Screening diabetic people in primary care is a cost effective method, but laboratory tests like HgA1C are not carried out in primary health care services in Turkey, and in many other countries. Patients have to apply to secondary and tertiary services for this test. In many cases the primary health care physician does never see these results and approaches (like a healthy diet, regular exercise, regular blood sugar screening, questioning about smoking) for an effective glysemic control are very seldom. Again in studies in the USA it is reported that diabetic patients are more often questioned about the risk factors compared to non-diabetics, but even this is not enough considering guidelines.<sup>27, 28</sup> Changing the life style and behavioral intervention is an important step in the management of diabetes. In developed countries such approaches are applied on people with risk factors, but healthy people are neglected. In Turkey the situation is poor in both ways: neither diabetic, nor healthy people receive any preventive help in primary health care services.<sup>29, 30</sup> Primary and secondary prevention in primary and secondary health care services can only be possible with sufficiently qualified health services and take advantages of opportunities. An important step in dealing with chronic diseases can be preventing missed opportunities as much as possible, especially in primary and secondary health care services. →

**Table 5:** Comparison of practices between primary care unit and other level of care

Preventive practices	Primary care	Other	p
	%	%	
Height and weight measured	7.1	15.9	0.001
Obesity health effects explained	6.3	15.9	<0.001
Regular exercise questioned	4.6	14.4	<0.001
Regular exercise advised	4.9	12.2	0.001
Regular exercise benefits explained	5.5	11.5	0.009
Healthy diet questioned	5.2	10.6	0.016
Healthy diet practice advised	4.9	11.5	<0.001
Healthy diet benefits explained	6.2	12.7	0.008
Smoking questioned	17.9	25.2	0.037
Smoking health risks explained	14.6	22.7	0.015
Blood pressure measured	27.5	23.3	0.272
Hypertension harms explained	14.6	15.4	0.804
Glysemic level measured	27.8	13.3	<0.001
Hyperglycemia harms explained	17.9	12.1	0.059
Blood cholesterol level measured	24.6	13.1	0.001
Hypercholesteremia harms explained	16.8	11.8	0.097
Family history questioned	15.4	15.4	0.997
Effect of family disease history explained	13.0	16.2	0.280

Of course this is not enough: the next step should be community based interventions in which primary health care centers have to play an important role. Preventive health care services should sustain with community oriented linkages and middle risk individuals screen in the target population.<sup>31</sup>

## RESULTS

Missed opportunities are a common problem. Especially preventive actions, health education and asking about risk factors are neglected in outpatient clinics and

primary health care services for chronic disease prevention and management. In developing countries health institutions are not aware from epidemiologic transition. Primary health care services carry a big responsibility but are far behind the point. Health reforms based on the privatization of services is not giving a solution for the prevention of chronic diseases. Preventive medicine should be a major part of medical education and doctors should be aware of their role in preventing chronic diseases. Preventive medicine should be a majority in primary health care services and promote by health system organizational and financial.<sup>32, 33</sup>



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