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Blood Analysis Requests of Patients' and Clinical Reflections in Primary Care

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Original Research / Orijinal Araştırma

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ABSTRACT

Aim: The aim of the study is to determine the factors that may affect the demands of patients who come with the request to have a blood test without any chronic disease or a planned examination check.

Methods: The data of this descriptive, cross-sectional study, were collected with a questionnaire that was prepared to examine the opinions of the patients who claim to have a blood test by coming to the family health center without any complaints. Patients over 18 years of age, who did not have any chronic disease and had no scheduled examination appointments were included in the study.

Results: A total of 278 patients who wanted to have a blood test within the 6-months period were included in the study. Female patients who wanted to have a blood test were significantly more than male patients. When we look at the causes of patients who wanted to have a blood test; 61.2% (n=170) patients stated that they are concerned about their health and 6.1% (n=17) stated that they were affected by media warnings. There was no significant relationship between the frequency of blood test requests of patients and their age, gender, education, and general health status.

Conclusion: Patients with high expectations and anxiety may be more willing to perform blood tests at inappropriate intervals. Family physicians, whose primary role is preventive medicine, have consultancy and information duties in order to protect their patients from the risk of over-examination and diagnosis.

Keywords: blood tests, patient, screening, routine diagnostic tests

Birinci Basamakta Hastaların Kan Tetkiki İsteme Talepleri ve Klinik Yansımaları

ÖZ

Amaç: Çalışmanın amacı, herhangi kronik bir hastalığı ya da planlanmış bir tetkik kontrolü olmadan kan tahlili yaptırma isteği ile gelen hastaların bu taleplerini etkileyebilecek faktörleri tespit etmektir.

Yöntem: Tanımlayıcı-kesitsel planda olan çalışmanın verileri, herhangi bir şikayeti olmadan aile sağlığı merkezine gelerek kan tahlili yaptırmak isteyen hastalardan kan tetkik talepleri ile ilgili görüşlerini incelemek amacıyla hazırlanan bir anket uygulaması ile toplandı. Çalışmaya herhangi bir kronik hastalığı olmayan ve planlanmış bir tetkik randevusu olmayan 18 yaş üstü hastalar dahil edildi.

Bulgular: Çalışma verilerinin toplanması için planlanan 6 aylık sürede kan testi yaptırmak isteyen 278 hasta ile görüşüldü. Kan tahlili yaptırmak isteyen kadın hastalar anlamlı olarak erkek hastalardan daha fazlaydı. Kan tahlili isteyen hastaların nedenlerine baktığımızda %61,2 (n=170) hasta sağlığı hakkında endişe duyduğunu, %6,1 (n=17)'i ise medya uyarılarından etkilendiğini belirtmiştir. Hastaların kan tahlili yaptırma sıklıkları ile yaş, cinsiyet, eğitim durumu, genel sağlık durumu değerlendirmesi arasında anlamlı bir ilişki bulunmamıştır.

Sonuç: Beklentileri ve kaygıları yüksek olan hastalar, kan testlerini uygun olmayan sık aralıklarla yapmak için daha istekli olabilirler. Öncelikli görevi koruyucu hekimlik olan aile hekimlerinin hastalarını fazla tetkik ve teşhis riskinden korumak için danışmanlık ve bilgilendirme görevleri bulunmaktadır.

Anahtar kelimeler: kan testleri, hastalar, tarama, rutin tanı testleri

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Introduction

Preventive health care includes laboratory examination service in case of needs that may occur during immunization, general outpatient and periodic examinations. The physician utilizes anamnesis, physical examination and laboratory tests at various levels in the clinical decision-making process regarding the health of their patients. It is stated that with the developing technological facilities and changing health service expectations, laboratory tests affect more than 70% of decision making in medical practice (1). As in other disciplines, patient expectations are effective in ordering blood tests in family medicine practice (2,3). It is stated that the confusion caused by the tests requested by the patients or by the physicians with various predictions, which are not beneficial for the diagnosis and treatment of the disease, harms the patients more than the benefits (4).

In the medical profession, making clinical decisions about patients is not a single parameter process. It is a fact that patient expectations are also effective in the clinical decision making process in the family medicine discipline, which has adopted the holistic approach philosophy to the patient. Many studies emphasize that there is a transformation in the clinical decision-making process to act in harmony with the patient (5).

Physicians are faced with the demand to take initiative about patients' own health at different points. This can sometimes be due to an ailment or anxiety related to their health; or by referring to health care institution with a request for an examination, because of being affected by people who thought they had a health problem learnt from the media channel or from their environment. It is emphasized that the demand for these requests at frequent intervals and for inappropriate reasons may turn into a badly transforming financial and health care habits in the health system (6).

One of the patients' requests to ask for blood analysis is the patients' prospective health concerns and fear of getting cancer. In the study of Haggerty et al. (7), doctors are said to be affected by non-medical factors such as anxiety and expectations of patients when demanding cancer screening tests, and the demand for testing increased significantly with these patient concerns. However, when the screening test application guides are final; they state that their decision on cancer screening has become easier. In accordance with the family medicine regulation, the family doctor is obliged to request chronic diseases and cancer screening tests at certain ages of patients enrolled in the periodic examination (8). Apart from these, blood examination requests of patients, without appointment and unplanned, may decrease the quality of health service by bringing both workload and financial burden to the health system.

Our aim in this study is to determine the factors that may affect the demands of patients who come with the desire to have a blood test without any chronic disease or a planned examination check.

Methods

Permission was obtained from the Public Health Institution and the Ethics Committee of Erzurum Atatürk University Faculty of Medicine where the family health center we also planned to work in is located. In this study, a questionnaire was applied to the patients by face-to-face interview technique who came to a family medicine unit in Erzurum Palandöken Adnan Menderes Family Health Center with a request to have a blood test within a 6-month period. As the criteria for inclusion in the study, it was determined as not diagnosed with any chronic disease before and not invited to the family health unit for the examination. In the survey, the data such as the demographic characteristics of patients, the health institution and frequency they applied to, the reasons and frequency of the examination request, and the analysis information they wanted to be examined were collected. The sample of the study was 278 patients over 18 years old who agreed to participate in the study and filled the questionnaire completely.

Descriptive statistics were given as mean ± standard deviation for continuous variables; frequency and percentage for categorical variables. Pearson Chi-square or Fisher-Freeman-Halton test was used to analyze relation between categorical variables. SPSS

v.22 was used for statistical analysis and p value of 0,05 was considered as statistical siginificance level.

Results

The average age of 278 people participating in the study was 46.59 ± 15.63 and 79.1% (n = 220) were female and 20.8% (n = 58) were male. The number of female patients participating in our study was significantly higher than male patients (p<0.001).

While 17.6% of the patients were illiterate, 12.2% were literate, 45% were primary school, 17.6% highschool, 7.6% university graduates. Housewives accounted for 68% of the patients (Table 1).

Table 1. Demographic features of participants

		Number (n)	Percent (%)
Education	Illiterate	49	17.6
	Literate	34	12.2
	Primary school	125	45.0
	High school	49	17.6
	University	21	7.6
Marital status	Married	216	77.7
	Single	40	14.4
	Widow	22	7.9
Job	Housewife	189	68.0
	Unemployed	25	9.0
	Worker	5	1.8
	Officer	18	6.5
	Self-employment	8	2.8
	Retired	16	5.8
	Student	17	6.1

While 34.9% of the patients who participated in our study said that they always wanted to have a blood test every time they went to the physician, the rest of the patients stated that if the physician provided sufficient explanation, they could have another time for blood analysis.

When we asked the patients, "What will you do if your request for an analysis is not accepted by your family doctor?", 19.4% of the patients stated that they would change their family doctor. 28.1% of the patients stated that they wanted to learn the reason and could understand it, and 52.5% said they would go to the hospital immediately for blood analysis.

When asked about the reasons for requesting a blood test, 61.2% stated that they wanted to have a blood test due to their health concerns. 6.1% of the patients stated that they were affected by the health news in the media, while 2.2% stated that they wanted with anxiety because they experienced losses in their family and its surroundings.

While 48.9% of the patients wanted all kinds of tests to be done, 18% said that they had the desire to look especially for vitamin B12 and all vitamins and 20.1% for cholesterol values (Table 2).

Table 2. Demand characteristics of patients' blood analysis

		Number (n)	Percent (%)
I want to have an analysis every time I come a visit		97	34.9
Reason for test demanding	I'm concerned about my health	170	61.2
	I wonder my anemia	24	8.6
	I suspect goiter	2	0.7
	I have blood tests every year	55	19.8
	I was impressed by the news in the media	17	6.1
	We have lost in our family	6	2.2
	I suspect rheumatism	4	1.4
Which blood analysis do you want to have?	All kinds of tests	136	48.9
	B12 and all vitamins	50	18.0
	Cholesterol	56	20.1
	Glucose	31	11.2
	Hormones	5	1.8

When we asked the patients how often they want to have a test, 15.5% said that they came to the analysis every 3 months, 27.3% said that they carried out their tests every 6 months, 33.1% said they prefer for a yearly analysis (Table 3). When asked whether any acute illness was diagnosed as a result of previous tests, 52.5% said that they were diagnosed with an illness.

Table 3. Patients' blood analysis demand frequencies

Frequency	Number (n)	Percent (%)
Once in 3 months	43	15.5
Once in 6 months	76	27.3
Once in a year	92	33.1
At intervals of more than 1 year	57	20.5
Other	10	3.6

Only 28.8% of these patients stated that they used the medication prescribed to them. When asked why they did not use the drug after the diagnosis as a result of blood analysis, 25% of the patients stated they did not like to use the drug, 13.5% could not use their medicines regularly. 29.8% of them said they did not use because they were affected by the information about the harm from the environment and from the media.

While there was no significant relationship between the frequency of blood tests of patients and the evaluation of age, gender, education, and general health status, there was a significant positive correlation with the number of doctor admissions in the past year (Table 4).

Table 4. The relationship between frequency of blood tests of patients and demographic features and general health status, number of doctor applications

		Once in 3 months	Once in 6 months	Once in a year	At intervals of more than 1 year	Everytime	P value
Gender	Female	36 (16.4 %)	61 (27.7 %)	74 (33.6 %)	41 (18.6 %)	8 (3.6 %)	0.645
	Male	7 (12.1 %)	15 (25.9 %)	18 (31.0 %)	16 (27.6 %)	2 (3.4 %)	
Education	Illeterate	7 (14.3 %)	17 (34.7 %)	16 (32.7 %)	8 (16.3 %)	1 (2.0 %)	
	Literate	8 (23.5 %)	9 (26.5 %)	9 (26.5 %)	7 (20.6 %)	1 (2.9 %)	
	Primary school	19 (15.2 %)	33 (26.4 %)	49 (39.2 %)	21 (16.8 %)	3 (2.4 %)	0.293
	High school	6 (12.2%)	14 (28.6 %)	9 (18.4 %)	16 (32.7 %)	4 (8.2 %)	
	University	3 (14.3%)	3 (14.3 %)	9 (42.9 %)	5 (23.8 %)	1 (4.8 %)	
General health status	Very good	4 (17.4 %)	5 (21.7 %)	10 (43.5 %)	3 (13.0 %)	1 (4.3 %)	
	Good	11 (12.4 %)	18 (20.2 %)	34 (38.2 %)	23 (25.8 %)	3 (3.4 %)	0.281
	Moderate	10 (11.4 %)	32 (36.4 %)	28 (31.8 %)	15 (17.0 %)	3 (3.4 %)	
	Bad	18 (23.1 %)	21 (26.9 %)	20 (25.6 %)	16 (20.5 %)	3 (3.9 %)	
Doctor visit number	Once a year	4 (4.7 %)	31 (36.5 %)	26 (30.6 %)	21 (24.7 %)	3 (3.5 %)	
	2-3 times a year	8 (9.9 %)	19 (23.5 %)	30 (37.0 %)	20 (24.7 %)	4 (4.9 %)	0.0001
	4-5 times a year	10 (16.1 %)	17 (27.4 %)	23 (37.1 %)	11 (17.7 %)	1 (1.6 %)	
	5>	21 (42.0 %)	9 (18.0 %)	13 (26.0 %)	5 (10.0 %)	2 (4.0 %)	

Discussion

Primary care physicians perform blood tests for their patients both in diagnosis and within the scope of periodic health examinations during the clinical decision making process. The physician's decision to conduct a blood test may be affected by the expectations of the patients. Although general blood tests are not recommended by evidence-based guidelines, it is stated that, in some studies patients often request referrals for these tests. In addition, the researchers emphasize that the time spent on discussing the results of the desired blood tests can be better used to discuss evidence-based recommended lifestyle changes for disease prevention (9).

According to the results of our study, it was determined that one third of the patients who came with a blood test request wanted to have a blood test at each physician visit. We see that patients coming with the blood test request are consist of women, significantly more. It is stated that the patients' requests and expectations are the most important factors in the decision of the physician as shown in a study where there is no significant difference in gender of patients who want at least one examination during the visit (10). In a study conducted with elderly patients, contrary to our study, it was reported that female patients wanted less examination than male patients (11).

In our study, when the patients were asked, "If your family doctor tells you that your analysis is not necessary, what do you do?", Very few of the patients stated that they would understand it. Herndon et al.

(11) stated that although their doctor stated that the test was unnecessary, the vast majority of patients were willing to perform the analysis.

We found that the reason for the majority of patients to request a blood test was anxiety that was not related to a defined disease. In a study investigating the causes of patients' blood tests requests, it was stated that some of the patients' unexplained complaints could be revealed as a result of the examinations and that they could reduce their anxiety (12).

In a study conducted with a large patient group, it was stated that the patients thought the tests performed were insufficient when no appropriate written or verbal explanation was made for them (13). A qualitative study investigating the reasons for asking general blood test analysis in asymptomatic patients says that the patients' wishes stemmed from some implicit concerns about their health (14). Kravitz et al. (15) investigated the prevalence and determination of examination and referral requests of patients with non-specific complaints. They found that patients with high stress had more requests for the examination and laboratory examination. According to the results of a similar study examining the characteristics of patients who have no chronic disease and who want to undergo medical research in primary care, the main cause of the requests of the tests was some non-specific symptoms, while the other most common reason was for early detection of diseases. In this study, it is also stated that patients with higher education level have more examination requests for disease prevention (16).

Both the pressure on the concept of defensive medicine, which has been discussed frequently recently, and the perception that the behavior of meeting the patient's demand is easier and more reliable, transforms the health system. The fact that family physicians say they prefer some tests to meet the demands of patients and prevent strategic problems suggests that there are many physicians who experience this problem (17). Considering the dynamics of the family medicine practice, it can be predicted that family physicians, whose advantage of trust relationship is provided with frequent and regular interviews with his patient, more than other disciplines, and can avoid unnecessary investigations by guiding the patient with appropriate explanations.

In addition to adopting a more evidence-based approach to health care, it is emphasized that the quality of health services is continuously improved for the health understanding evolving into a patient-centered approach. Nevertheless, difficulties such as unmet clinical needs and not having the same understanding of each user are stated as lowering motivation (18). As in other disciplines both in the world and in our country, in family medicine practice, clinical decisions include making decisions about the patient by evaluating the patient's health accumulation, expectations from the health system, personal and social concerns (19). Patient expectations and concerns, and diagnosis and treatment algorithms are candidates for change (20). However, patients' expectations and concerns may put physicians at risk of overdiagnosis, which does not affect the patient's life order and duration, but can indirectly lead to unhealthy health by increasing the unnecessary health information burden.

Limitations of our study, this is a cross-sectional study so that the results cannot be generalized. It is recommended to support the results of the study with studies to be carried out in primary care and to include similar studies in the secondary and tertiary care.

Conclusion

A family physician who fulfills the duty of patient advocacy and preventive medicine to the patient more than other disciplines should create a balance between the expectations of his patient and his own obligations. Family physicians who can evaluate the patient with their unique clinical decision making mechanisms should be guided to improve their health by constantly communicating with their patients.

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