

Vremenski normativi kardioloških neinvazivnih dijagnostičkih pretraga

Time standard specifications for cardiac non-invasive diagnostic tests

Nada Hrstić^{1,2*},
Mario Ivanuša^{1,3},
Goran Krstajić^{1,2}

¹Poliklinika za prevenciju kardiovaskularnih bolesti i rehabilitaciju, Zagreb, Hrvatska

¹Institute for Cardiovascular Prevention and Rehabilitation, Zagreb, Croatia

²Zdravstveno veleučilište, Zagreb, Hrvatska

²University of Applied Health Studies, Zagreb, Croatia

³Stručni studij Sestrinstva, Visoka tehnička škola u Bjelovaru, Bjelovar, Hrvatska

³Study Programme in Nursing, Technical College in Bjelovar, Bjelovar, Croatia

KLJUČNE RIJEČI: kardiološki testovi, vremenski standard, medicinska sestra.

KEYWORDS: cardiac tests, time standard, nurse.

CITATION: *Cardiol Croat.* 2014;9(9-10):497-498.

***ADDRESS FOR CORRESPONDENCE:** Poliklinika za prevenciju kardiovaskularnih bolesti i rehabilitaciju, Draškovićeve 13, HR-10000 Zagreb, Croatia. / Phone: +385-1-4612-309 / E-mail: nhrstic@gmail.com

UVOD: Broj učinjenih neinvazivnih kardioloških dijagnostičkih pretraga svakodnevno predstavlja veliko opterećenje za zdravstvene djelatnike, ali i čitavi zdravstveni sustav. Istodobno, postoji trend kontinuiranog smanjenja cijene pruženih usluga, uz neredovito zadržavanje opreme. Cilj ovog rada bio je istražiti koliko je vremena potrebno prvostupnicima sestrištva za provedbu pojedinih kardioloških neinvazivnih dijagnostičkih postupaka.

METODE: U Poliklinici za prevenciju kardiovaskularnih bolesti i rehabilitaciju, Zagreb analizirani su cijena postupka, prosječna potrošnja materijala za pretragu i prosječna potrošnja vremena za prvostupnicima sestrištva po pojedinim postupcima neinvazivne kardiološke dijagnostike.

REZULTATI: Prikazani u **tablici 1.**

ZAKLJUČAK: Cijena usluga je suboptimalna, s obzirom na utrošeno vrijeme i potrošnju materijala. Potreba za sve većim brojem usluga neinvazivne kardiološke dijagnostike, pored nezadovoljstva korisnika usluga zbog čekanja te dodatnog opterećenja zdravstvenih djelatnika može rezultirati smanjenjem kvalitete pružene usluge te većom mogućnosti pogreške. Nameće se potreba za revidiranjem vremenske norme i cijene postupka čime bi se dobilo na kvaliteti pružene usluge. Jedna od mogućnosti rasterećenja je upis pacijenata putem centralnog eNaručivanja čime bi se mogao olakšati rad na prijemu pacijenata.

INTRODUCTION: The number of performed non-invasive cardiac diagnostic tests represents a burden not only for healthcare professionals, but also the entire health care system every day. At the same time, there is a trend of continuous decrease in the cost of services provided, with irregular renewal of the equipment. The purpose was to investigate how long it takes for a bachelor of nursing to participate in certain cardiac non-invasive diagnostic procedures.

METHODS: At the Institute for Cardiovascular Prevention and Rehabilitation Zagreb, the cost of the procedure, average consumption of materials for tests and average time needed for a bachelor of nursing to perform particular non-invasive cardiac diagnostic procedures were analyzed.

RESULTS: As shown in **Table 1.**

CONCLUSION: The price of services is suboptimal, given the time spent and material consumption. The need for an increasing number of non-invasive cardiac diagnostic services, in addition to dissatisfaction of service beneficiaries due to waiting list and additional burden on health professionals can result in poorer quality of services provided and a greater possibility of making a mistake. There is a need to revise the time standard specifications and costs of procedures which would result in improved quality of service provided. One of the possibilities how to reduce the burden is the patient registration through the central eOrdering which could facilitate the work on admission of patients.

LITERATURE

1. Popescu BA, Stefanidis A, Nihoyannopoulos P, et al. Updated standards and processes for accreditation of echocardiographic laboratories from The European Association of Cardiovascular Imaging: an executive summary. *Eur Heart J Cardiovasc Imaging.* 2014;15(11):1188-93.
2. Kadish AH, Buxton AE, Kennedy HL, et al; ACC/AHA clinical competence statement on electrocardiography and ambulatory electrocardiography: a report of the ACC/AHA/ACP-ASIM Task Force on Clinical Competence (ACC/AHA Committee to Develop a Clinical Competence Statement on Electrocardiography and Ambulatory Electrocardiography). *J Am Coll Cardiol.* 2001;38:2091-100.
3. Rodgers GP, Ayanian JZ, Balady G, et al; American College of Cardiology/American Heart Association Clinical Competence statement on stress testing: a report of the American College of Cardiology/American Heart Association/American College of Physicians-American Society of Internal Medicine Task Force on Clinical Competence. *J Am Coll Cardiol.* 2000;36:1441-53.

RECEIVED:
September 15, 2014

TABLE 1. Time standard specifications by a bachelor of nursing, average consumption of materials and prices according Croatian Health Insurance Fund for cardiac non-invasive diagnostic tests in secondary healthcare.

	Price according HZZO (Croatian Health Insurance Fund) in secondary healthcare	Average time spent in minutes by a bachelor of nursing	Average consumption material for a procedure/patient in HRK (prices in 2013)	Characteristics / depreciation of devices
12-lead ECG	21.63	12	5.24	The high price of ECG thermal paper pack
Treadmill stress testing	214.11	35	31.60	
24-hour Holter ECG monitoring	149.40	50	17.10	Frequent defects, especially of cables
24-hour ambulatory blood pressure monitoring	107.90	38	2.42	Frequent defects
Transthoracic echocardiography	185.91	16	10.44	The high price of ultrasound thermal paper roll. Some devices were purchased by own funds, so the depreciation in the price of procedure is important.
Color Doppler flow imaging of carotid arteries and vertebral arteries + transcranial Doppler ultrasound of vertebral arteries	152.20+121.37=273.57	15	8.22	
Doppler ultrasound of lower limb arteries	200.97	11	10.84	