

Why do we need a new national survey? SEPHAR III – The next step

Maria Dorobantu

Cardiology Department, Clinical Emergency Hospital Bucharest, Bucharest, Romania
University of Medicine and Pharmacy “Carol Davila”, Bucharest, Romania

Arterial Hypertension (AH), defined by the constant raise of blood pressure (BP) values above 140/90 mmHg, continues to be the number one killer across the world, accounting for 12.6% of deaths worldwide [1–3].

According to World Health Organization (WHO), almost 40% of the entire world adult populations are “inflicted” by this disease [1,2]. The WHO data available in 2008 accounts for approximately 1 billion of hypertensive adults across the world [3]. Predictions for the year 2025 shows that the number of adult hypertensive population will increase up to 1.56 billion worldwide [4].

In Europe, the general prevalence of arterial hypertension is estimated between 35–40% with major discrepancy between Central and East European countries, where the prevalence is higher (Germany – 55.3%, Serbia – 47%, Czech Republic – 43.6%) and Northern and Western European countries, where the prevalence is lower (Italy – 37.7%, England – 31.5%, Sweden – 38.4%) [5–11].

In Romania, a South-Eastern European country, while arterial hypertension’s prevalence is 40%, it is responsible through cardiovascular disease for 62% of all deaths [12] raising the question: why this high mortality caused by AH?

Current ESH-ESC guidelines for the hypertension diagnosis and treatment [5] are commonly used, being implemented by the Romanian Society of Hypertension through organization of continuous medical education

courses such as C.O.M.B.A.T. (National Course on the Management of Hypertensive patient: Actualities in Diagnostic and Treatment – now at its third edition), of its annual congresses with international participation and through educational programs dedicated to nurses (C.O.M.B.A.T ASIST).

In our country, the gold standard of AH diagnosis remains office blood pressure measurement established by the use of aneroid and semi-automatic sphygmomanometers while mercury devices are being less and less used in clinical practice. Ambulatory blood pressure monitoring (ABPM) is available only in university hospitals and a limited number of county hospitals and often in private practice. Due to its costs, still high at this moment, the method is restricted mainly for evaluation of treatment efficacy in uncontrolled patients or in selected patients for confirming resistant to treatment cases. Few people are currently diagnosed by ABPM. Home blood pressure monitoring (HBPM) seems to gain terrain in front of ABPM, being more available now a days.

In daily practice, we are still facing a problem in the thoroughness of office blood pressure measurement, mostly due to not adjusting the cuff type to the arm circumference due to the low availability of large size cuff in the many of the hospital departments or GP’s offices.

Until 2005, the data regarding arterial hypertension’s prevalence in our country were scarce, mainly from small studies conducted on selected samples, ranging from 30% up to 76% [12]. This lack of representative data has led to the initiation of SEPHAR project: Study for the Evaluation of Prevalence of Hypertension and Cardiovascular Risk among the Adult Population of Romania. The main purpose of this project is to evaluate the prevalence, treatment, and control of hypertension

Correspondence to: MD PhD Maria Dorobantu, Head of Cardiology Department, Clinical Emergency Hospital Bucharest, Calea Floreasca no. 8, sector 1, Bucharest, 014461, phone: 004021-5992264; fax: 004021-3170108; e-mail: maria.dorobantu@gmail.com

in Romania and to find targets for developing prevention strategies aiming to improve hypertension management in Romania.

The first epidemiologic survey based on a representative sample for the entire Romanian adult population – SEPHAR I, was conducted between February-November 2005. The main results of this survey showed a general prevalence of arterial hypertension of 44.9% accounting for almost 8 million Romanian adult hypertensives at national level. Beside the high prevalence of AH evidence by this survey, other alarming data were revealed: the many of identified adult hypertensives (22.9%) were diagnosed on this occasion (newly diagnosed cases), less than half of them were treated (39%) accounting for a general control rate of only 7% [13–16].

The second SEPHAR survey, conducted 7 years later, also on a representative sample for the adult Romanian population, yelled a significantly lower AHT prevalence – 40.4%, accounting for approximately 7 million of adult Romanian hypertensives nationwide [17–19].

Having these two similar surveys, we are now able to have a much more clear view to the extent of the

hypertensive disease impact in our nation and to have a glimpse of its tendency in the past 7 years.

In the last seven years there is a 10.7% decrease in AH's prevalence among Romanian adult population (SEPHAR I: 44.92% vs. SEPHAR II: 40.41%; $p < 0,0001$), with a much more important reduction in the incidence of newly diagnosed HT – practically a reduction to almost half (SEPHAR I: 25.04% vs. SEPHAR II: 12.3%; $p < 0,0001$), while the prevalence of known HT has increased by 41,3% (SEPHAR I: 19.88% vs. SEPHAR II: 28.1%; $p < 0.0001$) [17–19]. Still, Romania is far from what could be considered a low AH's prevalence country.

There has been no change in AH's prevalence among the youngest group and among both the 45–54 years and 55–64 years groups, while a significant decrease has been noticed in the both 25–34 years and 34–44 years groups (by 47.66% and by 17.92% respectively) and a significant increase in the oldest group (by 7.91%) (Table 1) [17–19].

While AH's prevalence has decreased by 23.42% among adult male population, in female adult population it has remained the same (Table 1) [17–19].

Table 1. Tendency of Arterial hypertension's prevalence in the past seven years

	SEPHAR 1*	SEPHAR 2	p** for trend
AH prevalence	N = 2017	N = 1975	
Total - n (%)	906 (44.92)	798 (40.41)	< 0,0001
• Known AH	401 (44.26)	555 (28.1)	< 0.0001
• Newly diagnosed AH	505 (55.74)	243 (12.3)	< 0.0001
Sex groups			
• Males			
• Females	425 (50.17)	360 (38.42)	< 0,0001
Age groups	481 (41.11)	438 (42.20)	NSS
• 18-24 years- n (%)	14 (8.75)	5 (11.11)	NSS
• 25-34 years- n (%)	51 (15.00)	39 (7.85)	<0.0001
• 35-44 years- n (%)	99 (28.12)	87 (23.08)	< 0.016
• 45-54 years- n (%)	220 (51.4)	264 (49.72)	NSS
• 55-64 years- n (%)	215 (65.54)	96 (65.75)	NSS
• ≥65 years- n (%)	307 (75.06)	307 (81.00)	0,004
Area of residence			
• urban- n (%)	484 (41.58)	475 (39.78)	NSS
• rural- n (%)	422 (49.47)	323 (41.36)	< 0.0001

Values are present as absolute number (percent), *reproduced from reference no. [17], **chi square test; NSS: nonstatistical significance ($p > 0,05$); AH: arterial hypertension

By comparison with SEPHAR I results, there has been a 16.39% decrease of AH's prevalence in rural areas, while in urban ones it remained at similar values (Table 2) [17–19].

Regarding the severity of newly diagnosed AH, compared with the situation 7 years ago, there was a significant decrease in the proportion of mild AH cases and a significant increase in the proportion of moderate AH cases while the proportion of severe AH cases was similar in the two surveys (Table 2) [17–19].

An important aspect is that the level of awareness of AH has also significantly increased since 2005 by 57% (from 44.26% up to 69.55%; $p < 0.0001$), consistently in both sexes, all age groups and both areas of residence (Table 3) [17–19].

Treatment of hypertension in the last seven years there has had a significant increase by 52.25% reaching

59.15%, with the decrease in use of monotherapy (27.3% vs. 37%, $p < 0.0001$) and the increase in the use of 3 or more antihypertensive drugs (33.1% vs. 20%; $p < 0.0001$), while the double therapy was equally used more recently as it was 7 years ago (39.6% vs. 43%; $p = 0.075$). There is a mild reduction in the use of ACEIs together with increase in the use of ARBs (0.4% of the total treated hypertensive subjects, antihypertensive agents that were not available in our country 7 years ago,) an increase in use of diuretics and beta-blockers (probably due to a high prevalence of ischemic heart disease among hypertensive subjects), while calcium channels blockers' usage was the same as it was 7 years ago. Details regarding HT's treatment trend in the last 7 years are detailed in Table 4 [17–19].

Table 2. Severity of newly diagnosed AH across SEPHAR surveys

	SEPHAR I	SEPHAR II	p*
	N = 462	N = 243	
Severity of ndAH			
• mild	306 (66)	125 (51.4)	$p < 0.0001$
• moderate	102 (22)	97 (39.9)	$p < 0.0001$
• severe	54 (12)	21 (8.6)	NS

Values are presented as absolute values (percent), *chi square test; N: total number of subjects; NS: no statistical significance ($p > 0.05$); ndAH: newly diagnosed arterial hypertension

Table 3. Awareness of AH's trend in the past seven years

Awareness of AH	SEPHAR I N _{HT} = 906	SEPHAR II N _{HT} = 798	p*
Total - n (%)	401 (44.26)	555 (69.55)	< 0.0001
Sex groups			
• males - n (%)	147 (34.58)	224 (62.2)	< 0.0001
• females - n (%)	254 (52.8)	331 (75.6)	< 0.0001
Age groups			
• 18-24 years- n (%)	0 (0)	1(20)	-
• 25-34 years- n (%)	2 (3.92)	9 (23.1)	< 0.0001
• 35-44 years- n (%)	27 (27.27)	44 (50.6)	< 0.0001
• 45-54 years- n (%)	94 (42.72)	173 (65.5)	< 0.0001
• 55-64 years- n (%)	109 (50.69)	74 (77.1)	< 0.0001
• ≥ 65 years- n (%)	169 (55.04)	254 (82.7)	< 0.0001
Area of residence			
• urban- n (%)	230 (47.52)	364 (76.6)	< 0.0001
• rural- n (%)	171 (40.52)	191 (59.1)	< 0.0001

Values are presented as absolute number (percent), *binomial test; N_{HT}: total number of hypertensive subjects; AH: arterial hypertension

Table 4. AH's treatment trend in the past seven years

AH Treatment	SEPHAR I* N _{HT} = 906	SEPHAR II N _{HT} = 798	P*
Total - n (%)	352 (38.85)	472 (59.15)	< 0.0001
Sex groups			
• males - n (%)	128 (30.11)	179 (49.72)	< 0.0001
• females - n (%)	224 (46.56)	293 (66.89)	< 0.0001
Age groups			
• 18-24 years- n (%)	0 (0)	0 (0)	-

AH Treatment	SEPHAR I* N _{HT} = 906	SEPHAR II N _{HT} = 798	P*
• 25-34 years- n (%)	2 (3.92)	4 (10.26)	NS
• 35-44 years- n (%)	20 (27.27)	32 (36.78)	0.034
• 45-54 years- n (%)	85 (42.72)	142 (53.79)	<0.0001
• 55-64 years- n (%)	94 (50.69)	69 (71.88)	<0.0001
• ≥65 years- n (%)	151 (55.04)	225 (73.29)	<0.0001
Area of residence			
• urban- n (%)	202 (47.52)	423 (68.21)	<0.0001
• rural- n (%)	150 (40.52)	148 (45.82)	0.030

Values are presented as absolute number (percent), **chi square test; N_{HT}: total number of hypertensive subjects; NS: nonstatistical significance (p > 0,05); AH: arterial hypertension

Table 5. AH's control trend in the past seven years

AH's control	SEPHAR I* N = 2017	SEPHAR II N = 1975	P*
AH control for treated subjects	N_{THT} = 352	N_{THT} = 472	
Total - n (%)	70 (19.88)*	118 (25)	<0.0001
Sex groups			
• males - n (%)	27 (21.09)*	49 (27.37)	0.027
• females - n (%)	43 (19.19)*	69 (23.55)	0.037
Area of residence			
• urban- n (%)	49 (24.25)	97 (29.94)	0.012
• rural- n (%)	21 (14)	21 (14.19)	NS
General control of AH			
Total - n (%)	N _{HT} = 906 70 (7.72)	N _{HT} = 798 118 (14.79)	< 0.0001
Sex groups			
• males - n (%)	27 (6.35)	49 (13.61)	< 0.0001
• females - n (%)	43 (8.93)	69 (15.75)	< 0.0001
Area of residence			
• urban- n (%)	49 (10.12)	97 (20.42)	< 0.0001
• rural- n (%)	21 (4.97)	21 (6.50)	NS

Values are presented as absolute number (percent), *chi square test; N: total number of subjects; N_{HT}: total number of hypertensive subjects; N_{THT}: total number of treated hypertensives; NS: nonstatistical significance (p > 0.05); AH: arterial hypertension

All the above mentioned changes in the antihypertensive treatment has resulted in a significant increase of BP control rate both in general (which is almost double that the one from 7 years ago: 14,79% vs. 7,72%; p < 0,0001) and in treated hypertensives (25% vs. 19,88%; p < 0,0001). A significant increase in BP control rate was noticed both in males and females and in urban areas while in rural areas BP control rate has remained the same in the last seven years (Table 5) [17–19]. However, we are still far from an optimal BP control of our hypertensive population.

A new question is rising whether this positive 7-year tendency in AH's prevalence, treatment and control is the results of the change to a much active AH's screening leading to an early treatment initiation, together with active implementation on lifestyle changes in our population?

A recently published paper with SEPHAR II main results states that this positive tendency is the result of an increased awareness of AH in our population together with a better therapeutic control, which is positively influenced by educational level, level of income, the

level of access to medical care and adoption of life-style changes [17].

The prevalence of previously diagnosed AH was significantly higher among medically insured subjects compared to uninsured ones in whom newly diagnosed AH was more prevalent. Antihypertensive treatment was recorded more frequently among insured hypertensive subjects than in uninsured subjects. However, despite of this, treatment control in treated hypertensive subjects is similar between medically insured and uninsured subjects (Table 6) [17,18].

Average income per person among known hypertensive subjects is significantly higher than in newly diagnosed hypertensives. Treated hypertensives have a significantly higher average income than hypertensive subjects without treatment. Hypertensive subjects in whom treatment is effective have a significantly higher average income per capital (Table 7) [17–18].

No significant differences were recorded among hypertensive subjects with different level of education regarding both prevalence of newly diagnosed AH or known AH and the use of antihypertensive treatment. Instead, treatment control significantly increased from

approximately 20% in hypertertensives subjects with no education to approximately 40% in hypertensive subjects with higher education level (Table 8) [17,18].

In SEPHAR II survey, 467 subjects reported lifestyle changes such as weight reduction, increased physical activity, quitting smoking, reduction in alcohol and salt intake, adopting a healthy lifestyle, reducing the quantity of fatty food and regular consumption of fruits and vegetables. In the whole sample, lifestyle changes were more frequently recorded among subjects with normal BP values (less than 140/90 mmHg) than in subjects with high BP ($\geq 140/90$ mmHg). Among the different lifestyle changes, only the increase in physical activity, quitting smoking and reduction of alcohol and salt intake were more frequently recorded in subjects with normal BP values (Table 9). The proportion of

subjects adopting lifestyle changes increased from 33.4% in normotensive subjects, to 47.8% in all hypertensive subjects, to 60.3% in treated hypertensive subjects and to 69.3% in controlled hypertensive subjects (Table 10) [17,18].

Apart from its usefulness for Romanian epidemiology, SEPHAR II survey offers crucial data that can be used for local East-European and Balkan-Countries epidemiology studies.

At European level, even though Romania seems to align together with some Central European countries such as the Czech Republic and Poland regarding HT's prevalence and awareness, regarding HT's treatment and especially BP control it lays together with the other Balkan countries, probably due to economic reasons [17,20].

Table 6. Medical insurance in hypertensive subjects

	Medical insurance		p*
	With	Without	
New AH	174 (26.7)	19 (70.4)	< 0.0001
Known AH	478 (73.3)	8 (29.6)	< 0.0001
Antihypertensive treatment	407 (62.4)	4 (14.8)	< 0.0001
Treatment control	105 (25.8)	1 (25)	NS

Values are presented as absolute number (percent), *chi square test; NS: no statistical significance ($p > 0.05$); AH: arterial hypertension

Table 7. Average income per person (RON) in different types of hypertensive subjects

Hypertensive subjects		p*
New AH N = 223 600 (0-3500)	Known HT N = 521 700 (0-8472)	0.002
Males N = 121 600 (0 – 3500)	Males N = 207 800 (0-5000)	
Females N = 102 600 (0 – 3000)	Females N = 314 690 (0-8472)	
NSS	< 0.0001	
Untreated AH 602 (0-3500)	Treated AH 700 (0-8472)	< 0.0001
Uncontrolled AH 700 (0-8472)	Controlled AH 800 (200 – 5000)	0.021

Values are presented as median (range), *Mann-Whitney U test; AH: arterial hypertension

Table 8. Level of education among hypertensive subjects

	Educational level				P*
	No education	Primary education	Secondary education	Higher education	
New AH	7 (25.9)	50 (26.9)	141 (31.7)	43 (31.2)	NSS
Known AH	20 (74.1)	136 (73.1)	304 (68.3)	95 (68.8)	NSS
Antihypertensive treatment	14 (51.9)	123 (66.1)	258 (58)	77 (55.8)	NSS
Treatment control	3 (21.4)	24 (19.5)	59 (22.9)	32 (41.6)	0.003

Values are presented as absolute number (percent), *chi square test; NSS: no statistical significance ($p > 0.05$); AH: arterial hypertension

Table 9. Preventive methods in subjects with normal and high blood pressure values

	BP values (mmHg)		P*
	< 140/90	≥ 140/90	
Use of lifestyle changes	467 (61.2)	296 (38.8)	0.001
Weight reduction	132 (59.5)	90 (66.6)	NS
Increased physical activity	236 (69.2)	105 (36.2)	< 0.0001
Quitting smoking	164 (69.2)	73 (30.2)	0.002
Reduction in alcohol intake	79 (69.3)	35 (30.7)	0.003
Salt intake reduction	262 (56.7)	200 (43.3)	0.002
Adopting a healthy lifestyle	165 (60.2)	109 (39.8)	NS
Fatty food intake reduction	284 (59.4)	194 (40.6)	NS
Regular consumption of fruits and vegetables	192 (59.1)	133 (40.9)	NS

Values are presented as absolute number (percent), *chi square test; NS: no statistical significance (p > 0.05); BP: blood pressure

Table 10. Preventive methods in hypertensive subjects

	Lifestyle changes		p*
	YES	NO	
Normal BP	388 (33.4)	775 (66.6)	<0.0001
AH	375 (47.8)	409 (52.2)	< 0.0001
Antihypertensive treatment	279 (60.3)	184 (39.7)	<0.0001
Treatment control	79 (69.3)	35 (30.7)	0.003

Values are presented as absolute number (percent), *chi square test; BP: blood pressure; AH: arterial hypertension

The comparison of results from SEPHAR surveys and NATPOL surveys bears a special interest. Sharing many protocol similarities with NATPOL 2011 survey (conduction on a representative sample for adult population, data collection – BP and anthropometric measurements from the two surveys were performed with exact same devices that were borrowed from the polish team, diagnostic algorithms), SEPHAR II survey's results can be compared by proper statistical methods to NATPOL 2011 survey's results addressing the question on how different the two populations are in terms of arterial hypertension prevalence and control. These data may offer grounds for preventive strategies addressing the special needs of the East-European region [21].

The similarities between the results of the epidemiologic cross-sectional surveys from Romanian and the other Balkan countries offers the basis for initiating a Balkan AH network aiming for a better management of AH in this region.

However, in this moment, having only two evaluations does not enable us to estimate a trend in AH prevalence, treatment, and control in Romania, that has a crucial importance for the development of prevention strategies at national level.

That is why, SEPHAR III is planned to be conducted in 2016. Its design is similar with the previous two surveys but has the advantage that for the first time we will be able to screen the same population that was enrolled in SEPHAR II in a follow-up fashion. Moreover, SEPHAR III will benefit from a specially dedicated electronic platform that will allow the investigators to perform annual follow-up of this subjects.

In addition to SEPHAR II novelties, that enabled a better assessment of subclinical target organ damage (arterial stiffness measurements, urinary albumin to creatinine ratio) then the one used in SEPHAR I (only serum creatinine levels), SEPHAR III will also enable us estimate 24h natriuresis (that will bring some light regarding salt consumption at national level), will include evaluation of the sleep apnea syndrome's prevalence (by means of Epworth questionnaire and polysomnography), depression's burden evaluation of our adult population (giving us as glimpse of its influence upon HT's control), and last but not least, to measure the quality of life and compliance to antihypertensive treatment (by means of specially designed questionnaires).

Its results will represent the necessary next step in AHT management in our country – estimation of a real trend in AHT prevalence, treatment, and control, trend that will serve as base for future prevention strategies, which are urgently needed in our country.

Conflict of interest

The author confirms that there are no conflicts of interest.

References

1. Global status report on noncommunicable diseases 2010. Available from: http://www.who.int/nmh/publications/ncd_report_full_en.pdf
2. High blood pressure. Global and Regional Overview. Available from: http://www.searo.who.int/entity/world_health_day/leaflet_burden_hbp_whd2013.pdf

3. Danaei G *et al.* National, regional, and global trends in systolic blood pressure since 1980: systematic analysis of health examination surveys and epidemiological studies with 786 country-years and 5.4 million participants. *The Lancet*, 2011; 377(9765):568–577.
4. Weber M, Schiffrin E, White W *et al.* Clinical practice guidelines for the management of hypertension in the community a statement by the American Society of Hypertension and International Society of Hypertension. *Journal of Hypertension*. 2014; 32(1): 3-16.
5. Mancia G, Fagard R, Narkiewicz K, Redón J, Zanchetti A, Böhm M *et al.* 2013 ESH/ESC Guidelines for the management of arterial hypertension, *J Hypertens*. 2013; 31:1281–1357.
6. Jelakovic B, Dika Z, Kos J, Pecin I, Laganovic M, Jovanovic A, *et al.* Treatment and control of hypertension in Croatia. The BEL-AH study. *Lijec Vjesn* 2006; 128:329–333.
7. Wolf-Maier K, Cooper RS, Banegas JR, Giampaoli S, Hense HW, Joffres M, *et al.* Hypertension prevalence and blood pressure levels in 6 European countries, Canada, and the United States. *JAMA* 2003;289:2363–2369.
8. Wolf-Maier K, Cooper RS, Kramer H, Banegas JR, Giampaoli S, Joffres MR, *et al.* Hypertension treatment and control in five European countries, Canada, and the United States. *Hypertension* 2004; 43:10–17.
9. Grujic V, Dragic N, Kvrjic S, Susnjevic S, Grujic J, Travar S. Epidemiology of hypertension in Serbia: results of a National Survey. *J Epidemiol* 2012; 22:261–266.
10. Cifkova R, Skodova Z, Bruthans J, Holub J, Adamkova V, Jozifova M, *et al.* Longitudinal trends in cardiovascular mortality and blood pressure levels, prevalence, awareness, treatment, and control of hypertension in the Czech population from 1985 to 2007/2008. *J Hypertens* 2010; 28:2196–2203.
11. Falaschetti E, Chaudhury M, Mindell J, Poulter N. Continued improvement in hypertension management in England: results from the Health Survey for England 2006. *Hypertension* 2009; 53:480–486.
12. Dorobanțu M, Tăutu O. Proiecte românești de cercetare a factorilor de risc cardiovascular. *Medicina Internă*. Vol. IX Suppliment 2012, 7-14.
13. Dorobanțu M, Darabont RO, Bădilă E, Luca M, Datcu G, Avram R *et al.* SEPHAR study – Study for Evaluation of Prevalence of Hypertension and cardiovascular risk in adult population in Romania – Part I: Methodology. *Romanian Heart Journal*. 2006; vol XXI; 2: 89-96.
14. Dorobantu M, Darabont RO, Badila E, Luca M, Datcu G, Avram R *et al.* SEPHAR study – Study for Evaluation of Prevalence of Hypertension and cardiovascular risk in adult population in Romania – Part II: Results. *Romanian Heart Journal*. 2006; vol XXI; 3: 179-190.
15. Dorobanțu M, Darabont RO, Badila E, and Ghiorghe S. Prevalence, Awareness, Treatment, and Control of Hypertension in Romania: Results of the SEPHAR Study. *Int J Hypertens*. 2010 Feb 1; 2010:970694
16. Dorobanțu M, Bădilă E, Ghiorghe S, Darabont R.O, Olteanu M and Flondor P. Total Cardiovascular Risk Estimation in Romania. Data from SEPHAR Study. *Rom J Intern Med*. 2008;46(1):29-37.
17. Dorobantu M, Darabont R, Ghiorghe S *et al.* Hypertension prevalence and control in Romania at a seven-year interval. Comparison of SEPHAR I and II surveys., *J. Hypertens*. 2014;32(1):39-47.
18. Dorobantu M., Bartos D., Apetrei E. *et al.* Hypertension in Romania: where are we and what we do? Results from SEPHAR II study. *Romanian Journal of Cardiology*, 2012; 22 (4): 285-292.
19. Dorobanțu Maria, Darabont Roxana, Ghiorghe Silviu *et al.* Profile of the Romanian Hypertensive Patient. Data from SEPHAR II study. *Romanian Journal of Internal Medicine*, vol 50, no 4, 2012, pg 285-296.
20. M. Dorobanțu, S. Onciul, R. Darabont *et al.* Arterial Hypertension Epidemiology: Romania among the Balkan Countries – Data from SEPHAR Surveys. *Medicina Modernă*, 2014, (21) 1: 10-16.
21. M. Dorobantu, O.F. Tautu, R. Darabont *et al.* Objectives and Methodology of Romanian SEPHAR II Survey. Project for Comparing the Prevalence and Control of cardiovascular risk factors in two East-European Countries: Romania and Poland. *Archives of Medical Science*. 2015. 4. In press.

